PARTS MANUAL

CHALLENGER
H70, 80, 90,100, & 110XL
H90XLS
(G5)

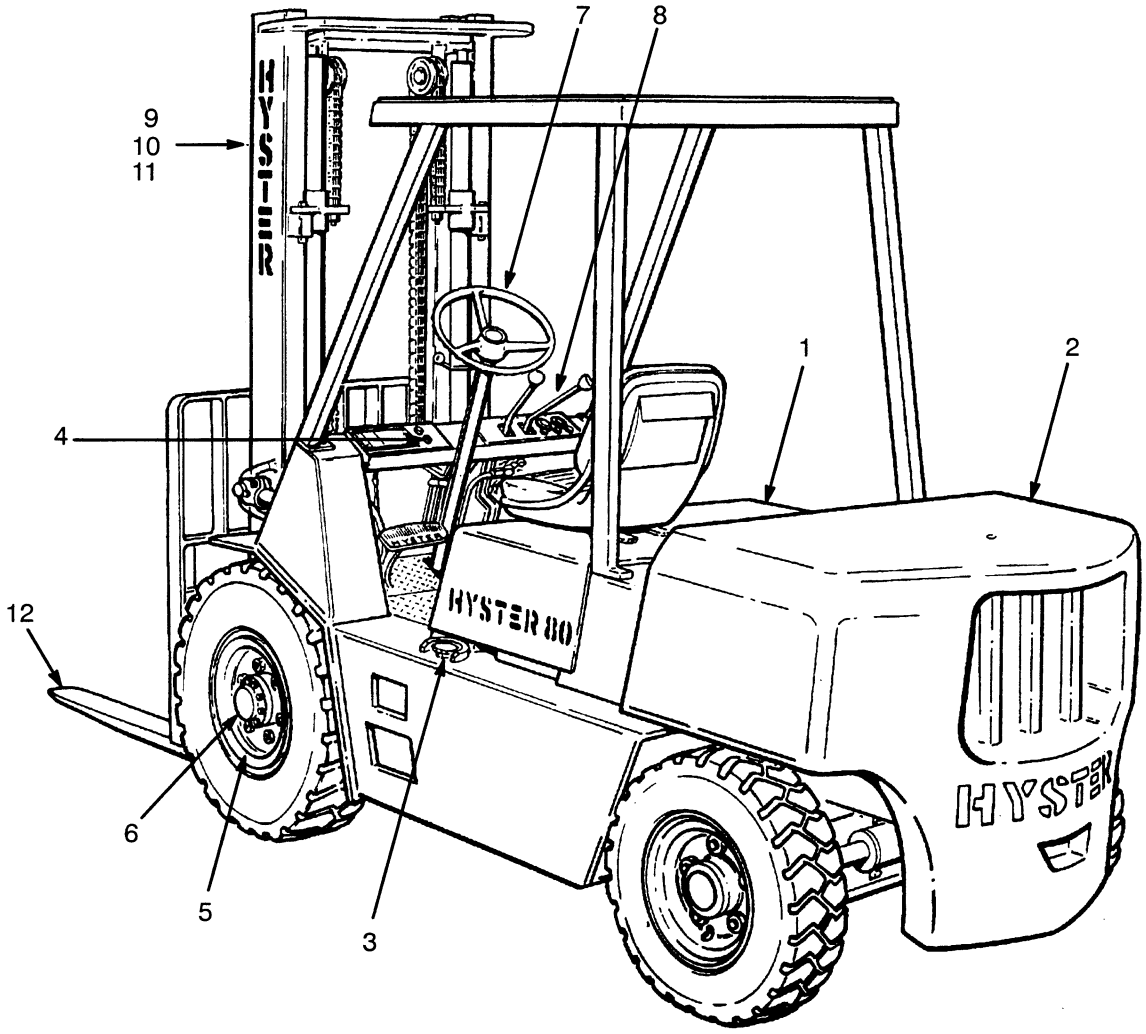
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ABBREVIATIONS QUICK REFERENCE SHEET

Listed Below Are Abbreviations Used In Parts Manuals To Denote The Following Expressions:

2-STG	Two Stage Mast
3-STG	Three Stage Mast
4-STG	Four Stage Mast
Amp	Amperes
AR	As Required
BCS	Box Car Special
BWI	Brush Wear Indicator
CE	Commutator End
CRE	Corrosive Environment
dbA	Decibel "A" Scale
DE	Drive End
EC or ECH	Empty Container Handler Europe Empty Container Handler U.S.
EC-3 ECH-3	Empty Container Handler-3 High Stacking
EC-4 ECH-4	Empty Container Handler-4 High Stacking
EC-5 ECH-5	Empty Container Handler-5 High Stacking
EC-6 ECH-6	Empty Container Handler-6 High Stacking
EC-7 ECH-7	Empty Container Handler-7 High Stacking
ECM	Electronic Control Module
ECN	Engineering Change Notice
EEPROM	Electrically Erasable Programable Read Only Memory
EPROM	Electrically Programable Read Only Memory
EGR	Exhaust Gas Recirculation
FFL	Full Free Lift
FLT	Fork Lift Truck
FRE	Freezer Environment
in.	inches
I.D.	Inside Diameter
LFL	Limited Free Lift
LPG	Liquified Petroleum Gas
MAP	Manifold Absolute Pressure
mm	millimeters
MSTS	Microprocessor Spark Timing System

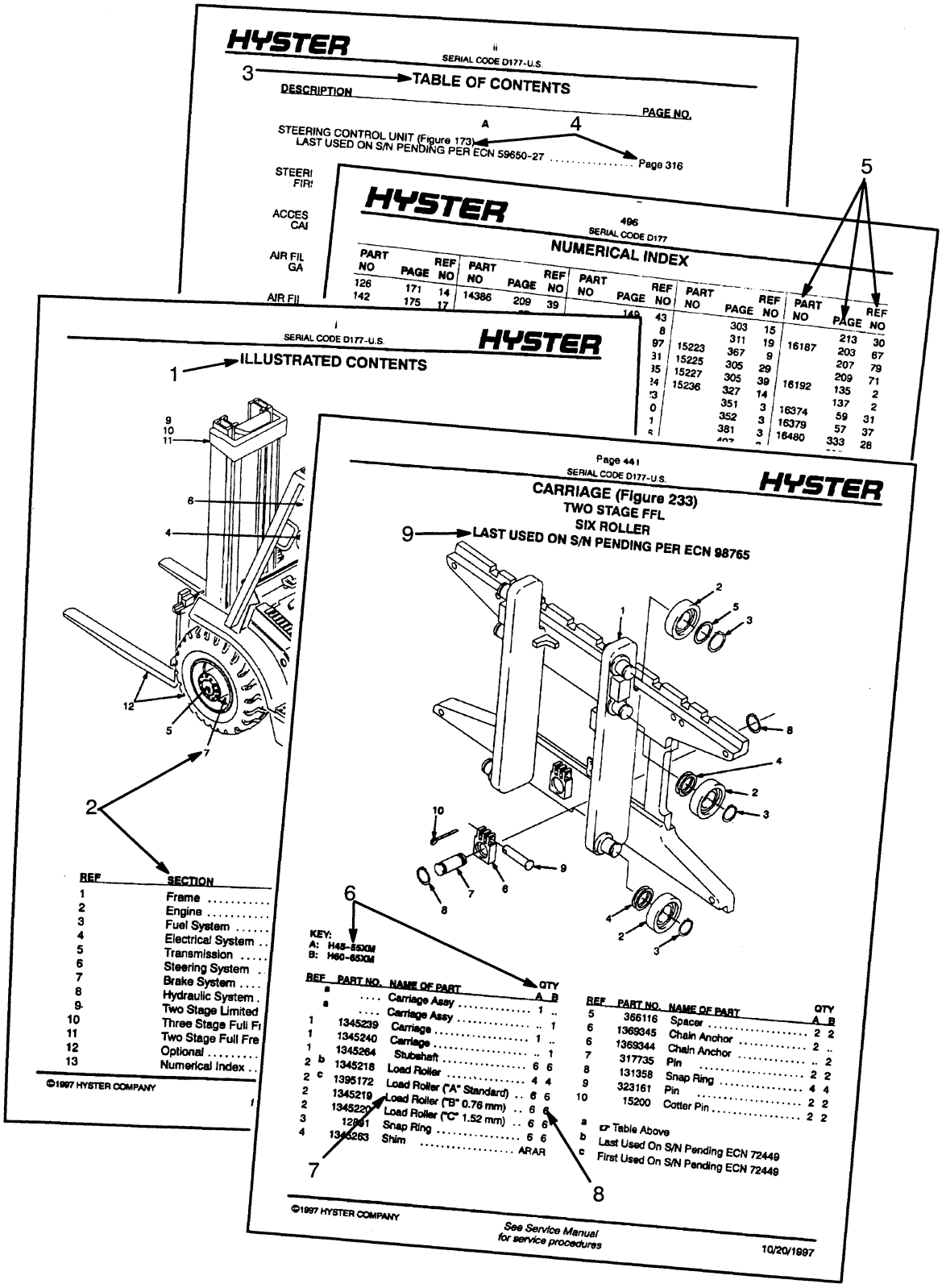
NC	Normally Closed
NDE	Not Drive End (Commutator End)
NFL	No Free Lift
NI	Not Illustrated
NO	Normally Open
NPT	National Pipe Threads
NS	Neutral Start
OC	Oil Clutch Transmission
O.D.	Outside Diameter
O/S	Oversize
PS	Powershift Transmission
PTO	Power Take Off
RPM	Revolutions per Minute
S/N	Serial Number
SFL	Semi-Free Lift
TMM	Truck Management Module
Type D	UL Type D, Diesel-Powered Safety Rating
Type DS	UL Type DS, Diesel-Powered Safety Rating
Type E	UL Type E, Battery Powered Safety Rating
Type EE	UL Type EE, Battery-Powered Safety Rating
Type ES	UL Type ES, Battery-Powered Safety Rating
Type G	UL Type G, Gasoline-Powered Safety Rating
Type GS	UL Type GS, Gasoline-Powered Safety Rating
Type LP	UL Type LP, LP Gas-Powered Safety Rating
Type LPS	UL Type LPS, LP Gas-Powered Safety Rating
U/S	Undersize
UL	Underwriters Laboratory
UK	United Kingdom
U.S.	United States
V	Volts
Xmsn	Transmission

NOTES

HOW TO USE THE ILLUSTRATED PARTS MANUAL

This parts manual describes and illustrates assemblies, subassemblies, and detail parts needed for service replacement.

The different constructions are indicated by keys, symbols and footnotes.



HOW TO FIND THE DESIRED PART NUMBER

WHEN THE PART NUMBER AND THE NEXT HIGHER ASSEMBLY IS NOT KNOWN:

1. Determine the function and application of the part required. Turn to the illustrated index page immediately behind the front cover. Choose the general area of reference most likely to include the part.
2. Find the page number for the reference number you choose and turn to that page. Use the division index to determine the assembly which would normally contain the part required. Then locate the part on the assembly breakdown page.

WHEN THE PART NUMBER IS NOT KNOWN AND THE NEXT HIGHER ASSEMBLY IS KNOWN:

3. Determine the assembly the required part is used on. Turn to the Master Index immediately following the Illustrated Index.
4. Locate the assembly the required part is used on and turn to the page indicated for that assembly. Then locate the part on the assembly breakdown page.

WHEN THE PART NUMBER IS KNOWN:

5. Use the numerical index at the back of the manual to find the part number. Turn to the figure listed and locate the part as indicated by the reference number.

GENERAL:

The assembly breakdowns include part numbers, description, quantities required, keys and footnotes to help in selecting the correct parts.

6. Keys are used to show effective serial numbers for two or more similar assemblies, RH and LH assembly parts, etc. Select the appropriate key, "A", "B", "C" or "D" and the corresponding quantity column to find the required parts.
7. Indented descriptions under "Name of Part" are used to indicate assemblies and sub-parts of assemblies. In the example, *LOAD ROLLER* (Item 7) is a subpart of the major assembly *CARRIAGE*.
8. Quantities shown are for one assembly. The quantities of the subpart *LOAD ROLLER* are indicated as six and six. This means six per *CARRIAGE* assembly.
9. Engineering change notice (ECN) numbers for pending serial numbers are shown to allow for the inclusion of the most current parts information. Contact your local dealer for Hyster lift trucks for serial number information listed by ECN number.
10. Additional fork lengths are available. Contact your dealer for Hyster lift trucks.

ORDERING PARTS:

When ordering replacement parts, give the unit serial number, part number, name of part and quantity required.

For any further information on parts, service, or ordering, consult your local dealer for Hyster lift trucks.

IDENTIFICATION OF TRUCK SERIAL NUMBERS

X (1) OOO (2) X (3) OOOO (4) X (5)

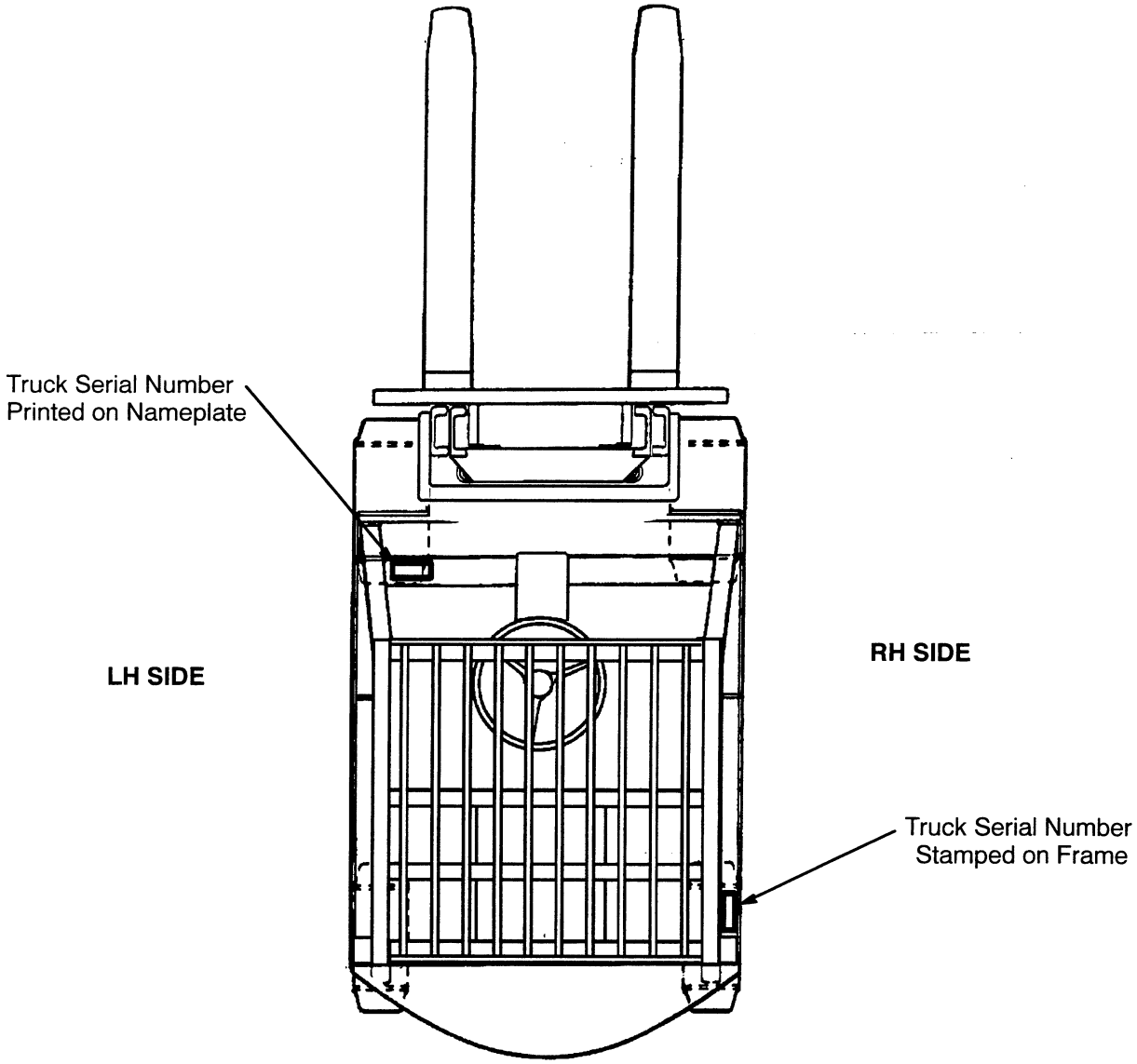
(1) & (2) The first letter and three numbers indicate the truck model code.

(3) The second letter indicates the plant of manufacture.

(4) The four or five digit number series indicates the serial number of the truck.

(5) The final letter indicates the year of manufacture starting with "A" in 1957 and 1980. The letters "I", "O", and "Q" will not be used.

For pending serial numbers contact your local dealer for Hyster lift trucks.



Parts referred to in this book as right or left hand parts are in accordance with the illustration above.

IDENTIFICATION OF MAST SERIAL NUMBERS

X (1) 000 (2) X (3) 0000 (4)
0000 (5)

(1) & (2) The first letter and number indicates the mast model code.

(3) The second letter indicates the plant of manufacture.

(4) The four or five digit number series indicates the serial number of the mast.

(5) Lift Height in Millimeters stamped just below the serial number

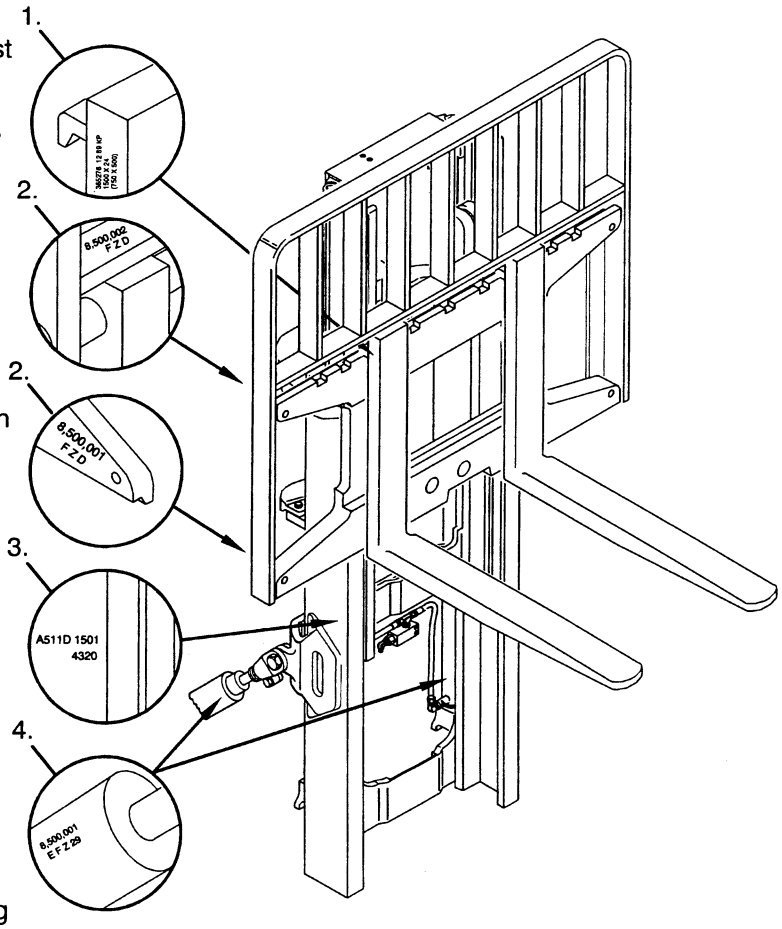
Mast Group Identification consists of mast unit code (1) & (2) plus lift height (5).

For pending serial numbers contact your local dealer for Hyster lift trucks.

LIFT EQUIPMENT IDENTIFICATION

1. Fork part number, capacity rating, plant code letter and date of manufacture are stamped approximately six inches below the top of most forks.
2. The carriage group number is stamped on the right hand side of the top crossmember (pin type) or on the back of the right hand end of the bottom crossmember (hook type). A date code has two letters in line with or below the carriage group number.
3. The mast identification number has a model code, a letter indicating the plant of manufacture, and a serial number. Underneath the serial number is a four digit number that indicates the total lift height for the mast in millimeters.
4. Tilt and lift cylinder group numbers are stamped on the cylinder shell.

   Always refer to the group, serial or part number when ordering service parts.



Modification of masts and carriages by SPED (Special Products Engineering Department) are identified by a model prefix code beginning with the letter "S". Contact your dealer for Hyster lift trucks for information on these assemblies.

IDENTIFICATION OF ATTACHMENT AND SIDE-SHIFT CARRIAGE SERIAL NUMBERS

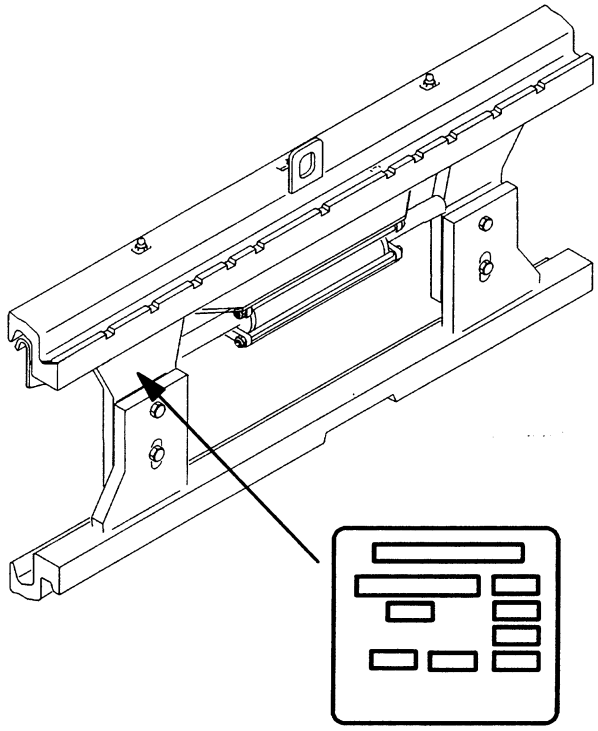
X 000 X 0000
(1) (2) (3) (4)

(1) & (2) The first letter and three numbers indicate the attachment model code.

(3) The second letter indicates the plant of manufacture.

(4) The four or five digit number series indicates the serial number.

For pending serial numbers contact your local dealer for Hyster lift trucks.



NAMEPLATE

Side-Shift Carriages and Attachments have nameplates. Use the serial number found on the nameplate to identify the attachment.

Always refer to the group, serial or part number when ordering service parts.

Modifications of attachments and side-shift carriages by SPED (Special Products Engineering Department) are identified by a model prefix code beginning with the letter "S". Contact your dealer for Hyster lift trucks for information on these assemblies.

FRAME

COUNTERWEIGHT (Figure 7) ..... Page 13

FLOORPLATES AND FENDERS (Figure 5) ..... Page 10

HOOD (Figure 4) ..... Page 8

LABELS AND PAINT (Figure 8) ..... Page 14

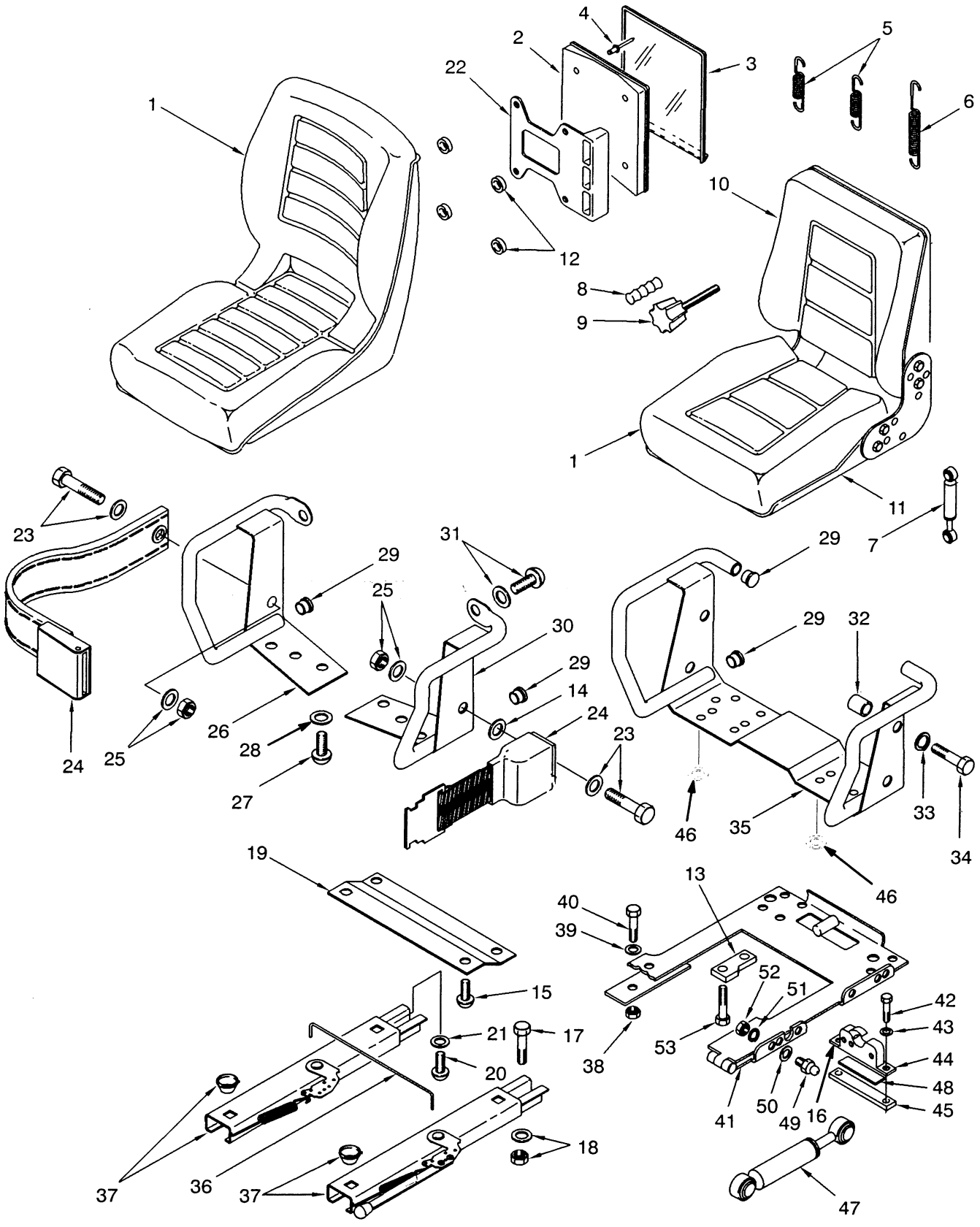
LOAD BACKREST EXTENSION (Figure 9) ..... Page 16

OVERHEAD GUARD (Figure 6) ..... Page 12

SEAT (Figure 3) ..... Page 6

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SEAT (FIGURE 3)



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See Service Manual
for service procedures

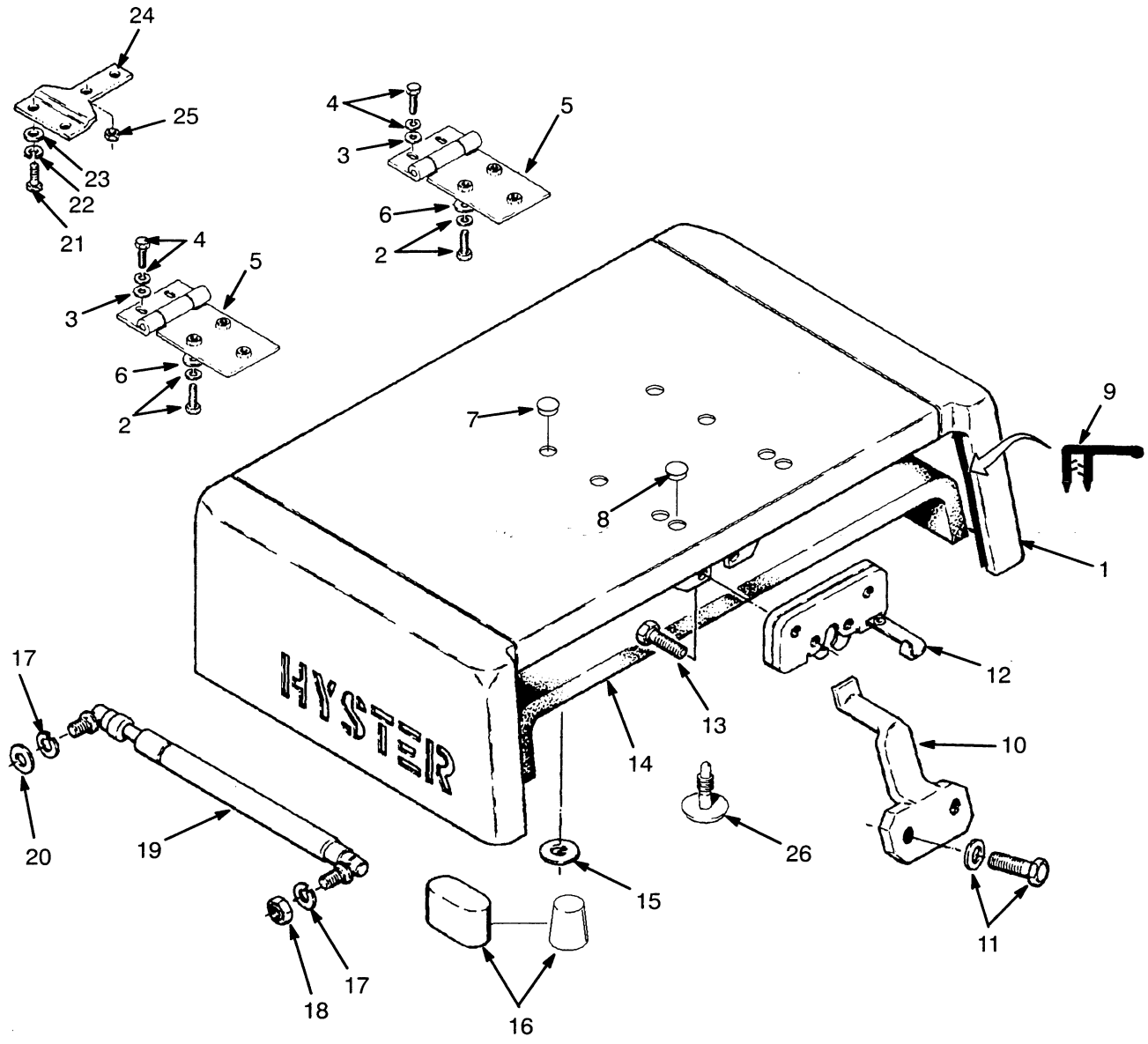
SEAT

KEY:
A: Standard
B: Suspension

REF	PART NO.	NAME OF PART	QTY A	QTY B
1	364911	Seat	1	..
1	1345826	Seat	..	1
2	335988	Information Base	1	..
2	335989	Information Base	..	1
3	335991	Cover	1	1
4	222029	Rivet	4	..
4	222030	Rivet	..	4
5	326364	Coil Spring	..	2
6	326363	Tension Spring	..	1
7	326978	Shock Absorber	..	1
8	326362	Knob	..	1
9	326365	Adjustment Spindle	..	1
10	326361	Cushion (Back)	..	1
11	326360	Cushion (Seat)	..	1
12	1326337	Spacer	..	4
13	306187	Bumper (LPG)	2	2
14	379182	Spacer (LPG)	4	..
15	18731	Capscrew	4	..
15	18728	Capscrew (LPG)	4	..
15	18727	Capscrew	..	4
16	251099	Adhesive	AR	AR
17	16374	Capscrew	4	4
18	15175	Washer	4	4
18	145639	Locknut	4	4
19	353731	Plate	2	..
20	186261	Capscrew	4	..
21	15155	Washer	4	..
22	381954	Bumper	1	1
23	379199	Capscrew	2	2
23	379697	Washer	2	2
24	1374750	Belt	1	1
25	379697	Washer	2	2
25	379698	Nut	2	2
26	364807	Restraint, RH	1	..
27	18727	Capscrew	4	..
28	18515	Washer	4	..
29	364854	Plug	2	4
30	364808	Restraint, LH	1	..
31	379198	Washer	2	..
32	364848	Spacer	..	2
33	379675	Washer	..	2
34	379674	Capscrew	..	2
35	364847	Restraint	..	1
36	1300107	Rod	1	1
37	335553	Rail, LH (Gas And Diesel)	1	1
37	383116	Rail, LH (LPG)	1	1
37	383116	Rail, RH (Gas And Diesel)	1	1
37	1300108	Rail, RH (LPG)	1	1
38	145639	Locknut	8	8
39	15175	Washer	4	4
40	16836	Capscrew	4	4
41	1314355	Kit-Seat Hinge	1	1
42	221418	Capscrew	4	4
43	15127	Washer	2	2
44	1304957	Latch	1	1
45	1346321	Plate	1	1
46	1334790	Spacer	..	4
47	364976	Gas Spring (LPG)	1	..
47	380320	Gas Spring (LPG)	..	1
48	364940	Shim (LPG)	AR	AR
49	379190	Ball Stud (LPG)	2	2
50	320157	Washer (LPG)	2	2
51	292681	Lockwasher (LPG)	2	2
52	329069	Nut (LPG)	2	2
53	1367837	Screw (LPG)	2	2
54	251099	Adhesive	AR	AR

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HOOD (FIGURE 4)



HOOD

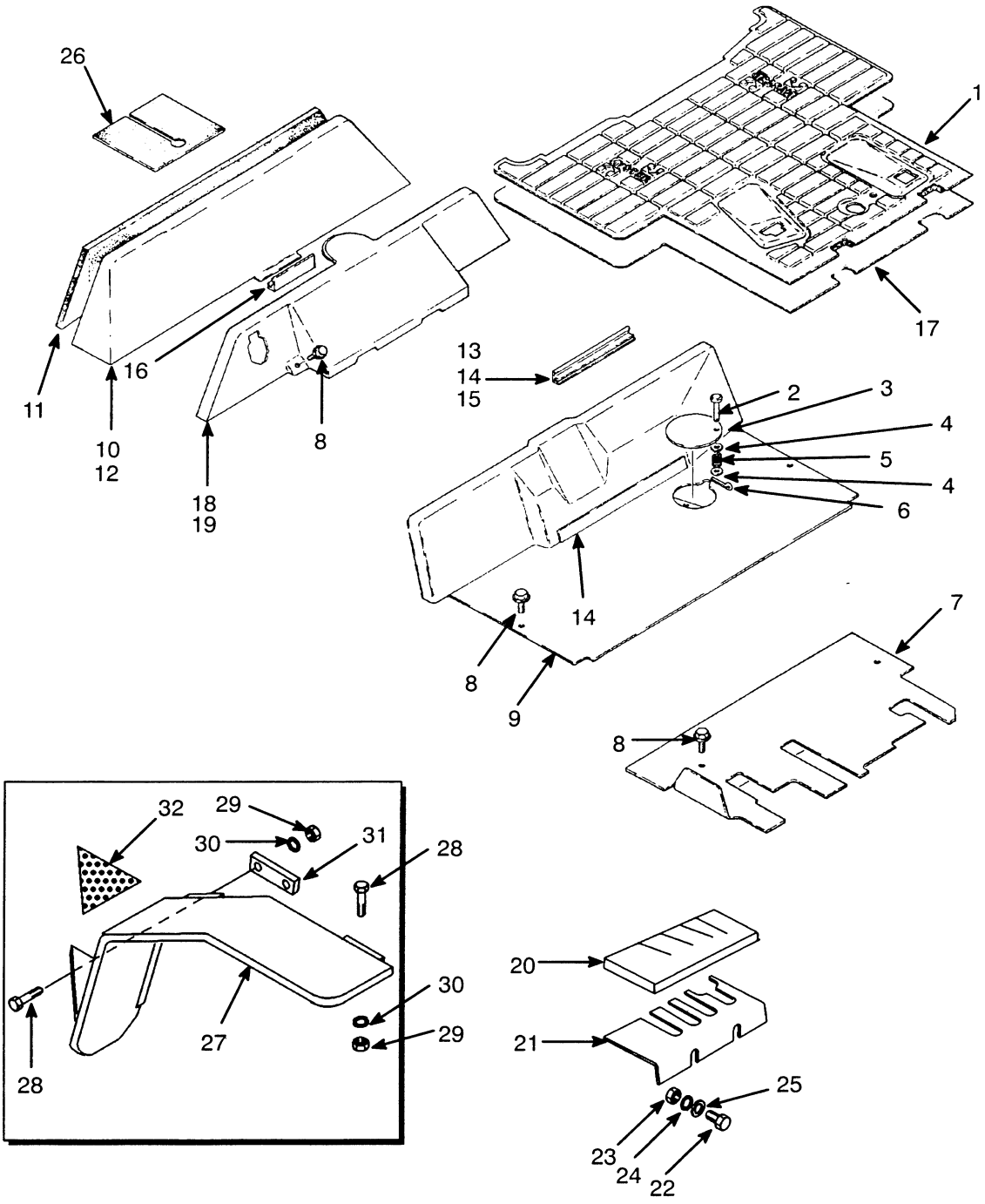
REF		PART NO.	NAME OF PART	QTY
1	a	1337441	Hood	1
1	b	1386219	Hood	1
2		292514	Capscrew	6
2		292681	Lockwasher	6
3		320157	Washer	4
4		292681	Lockwasher	4
4		136681	Capscrew	4
5		1331039	Hinge	2
6		1300117	Washer	6
7		1307737	Plug (Gas And Diesel)	4
8		1338175	Plug (LPG)	4
9		353204	Trim	AR
10		364861	Striker	1
11		302334	Capscrew	2
11		320160	Washer	2
12		364857	Latch	1
13		199563	Capscrew	4
14	c	1456791	Hood Liner (With Noise Reduction)	1
14	d	1456792	Hood Liner	1

REF	PART NO.	NAME OF PART	QTY
14	353191	Tape (Per Foot)	AR
15	246788	Washer	13
16	1320610	Bumper	2
17	292681	Lockwasher	2
18	303117	Nut	1
19	353021	Gas Spring	1
20	320157	Washer	2
21	287854	Capscrew	4
22	292682	Lockwasher	4
23	320159	Washer	4
24	1328885	Plate	2
25	239503	Nut	4
26	1304971	Fastener	13

a Last Used On S/N G005A-5162
b First Used On S/N G005A-5163
c With Noise Reduction
d Without Noise Reduction

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FLOORPLATES AND FENDERS (FIGURE 5)



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FLOORPLATES AND FENDERS

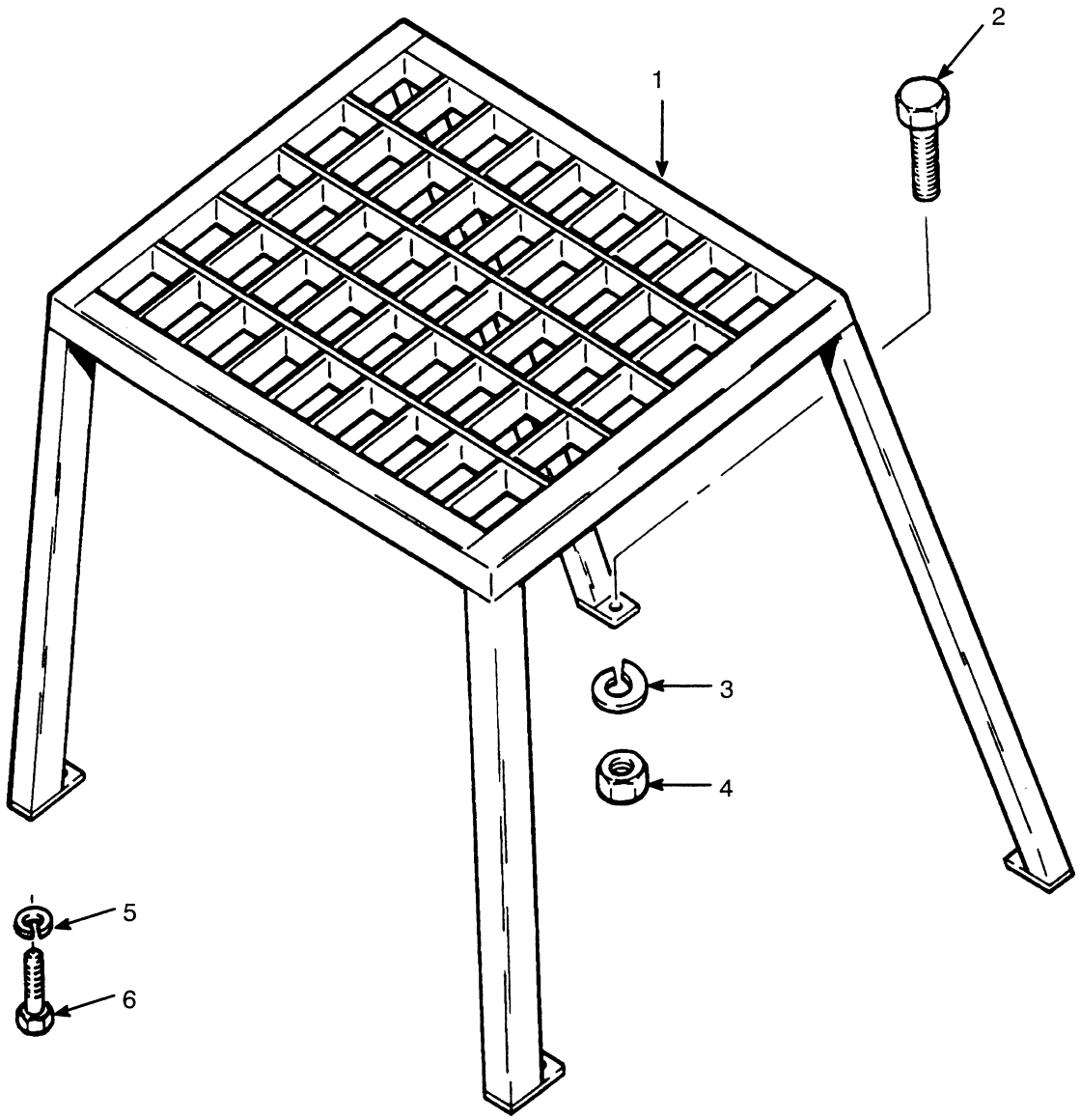
KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
1	a	1323399	Floor Mat	1	1
1	a	1358623	Floor Mat	..	1
2		177590	Pin	1	1
3		313815	Plate	1	1
4		320157	Washer	2	2
5		137122	Spring	1	1
6		15212	Pin	1	1
7		1323398	Floorplate	1	..
7		1323397	Floorplate	..	1
8		329067	Screw	6	6
9		1323677	Floorplate	1	1
9		1339809	Liner	1	1
9		246780	Mat, RH	1	1
10	bc	1360160	Cover	1	1
10	ab	1357901	Cover	1	1
10	d	1357900	Cover	1	1
11	bc	1356999	Sound Liner	1	1
11	d	1356998	Sound Liner	1	1
12	b	353185	Cover	1	1
12		246788	Washer	5	5
13		353188	Trim	AR	AR
14		288762	Foam Tape	AR	AR
15		288394	Sealant	AR	AR
16		353204	Trim	AR	AR
17		1339815	Barrier	..	1
18	b	1358624	Cover	1	1
19	b	280644	Button	2	2
20		1300244	Foam	..	1
21		1300245	Bracket (Some Earlier Models)	..	1
22		136749	Capscrew	..	2
23		239503	Nut	..	2
24		292681	Lockwasher	..	2
25		320157	Washer	..	2
26		1339816	Liner	1	1
27	eg	1302390	Fender, RH	1	1
27	eg	1302391	Fender, LH	1	1
27	fg	1302392	Fender, RH	1	1
27	fg	1302393	Fender, LH	1	1
28	g	293647	Capscrew	8	8
29	g	292656	Nut	8	8
30	g	292683	Lockwasher	8	8
31	g	1302398	Plate	2	2
32	g	1303200	Anti-Slip Tread, RH	1	1
32	g	1303201	Anti-Slip Tread, LH	1	1

a Without Noise Reduction
b Overhead Exhaust
c With Noise Reduction
d Counterweight Exhaust
e H70-80XL And H90XLS
f H90-110XL
g Dual Drive Wheels

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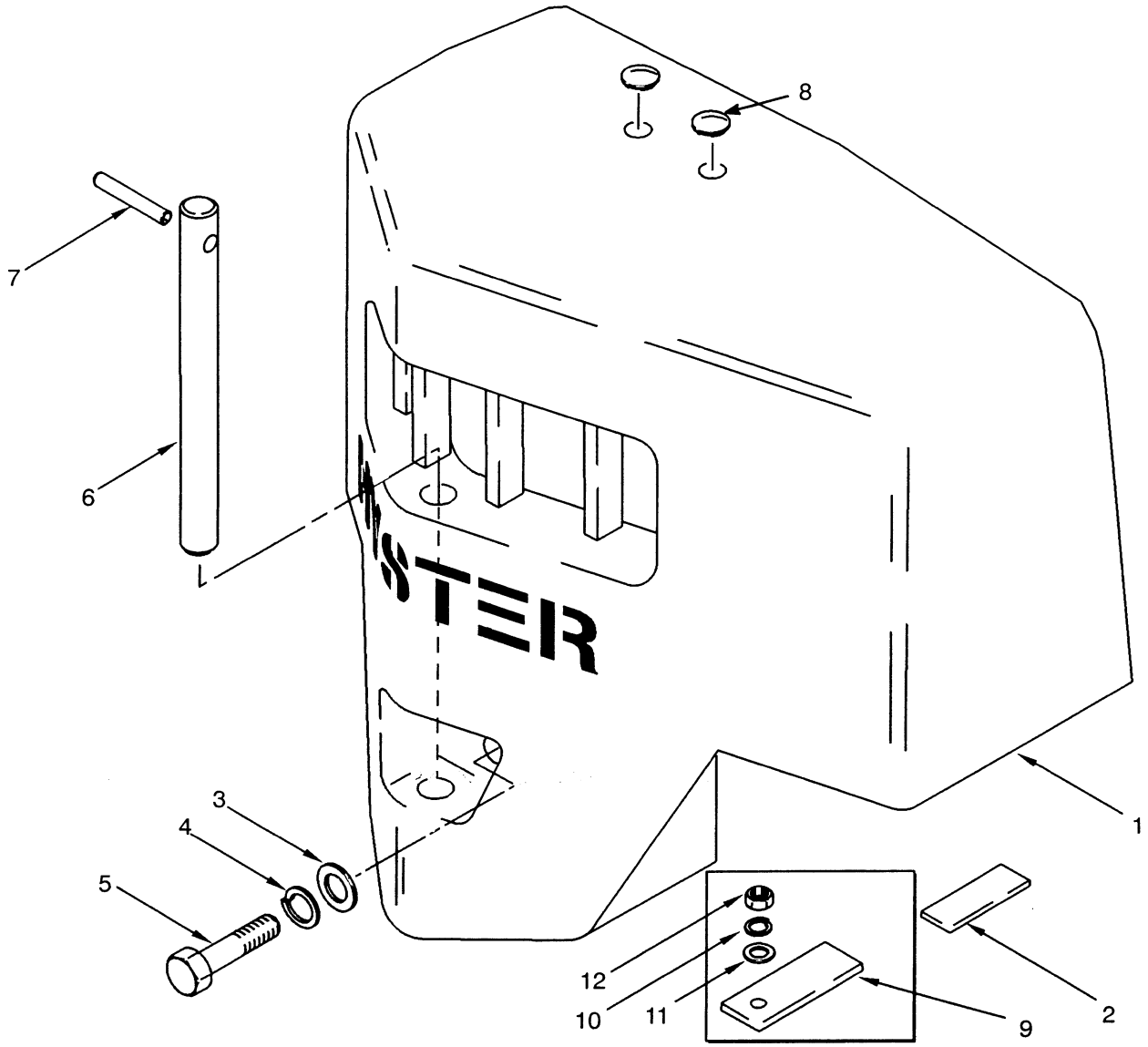
OVERHEAD GUARD (FIGURE 6)



REF	PART NO.	NAME OF PART	QTY
1	1312043	Overhead Guard	1
2	293647	Capscrew	4
3	292683	Lockwasher	4
4	216877	Nut	2
5	292685	Lockwasher	2
6	226458	Capscrew	2

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COUNTERWEIGHT (FIGURE 7)



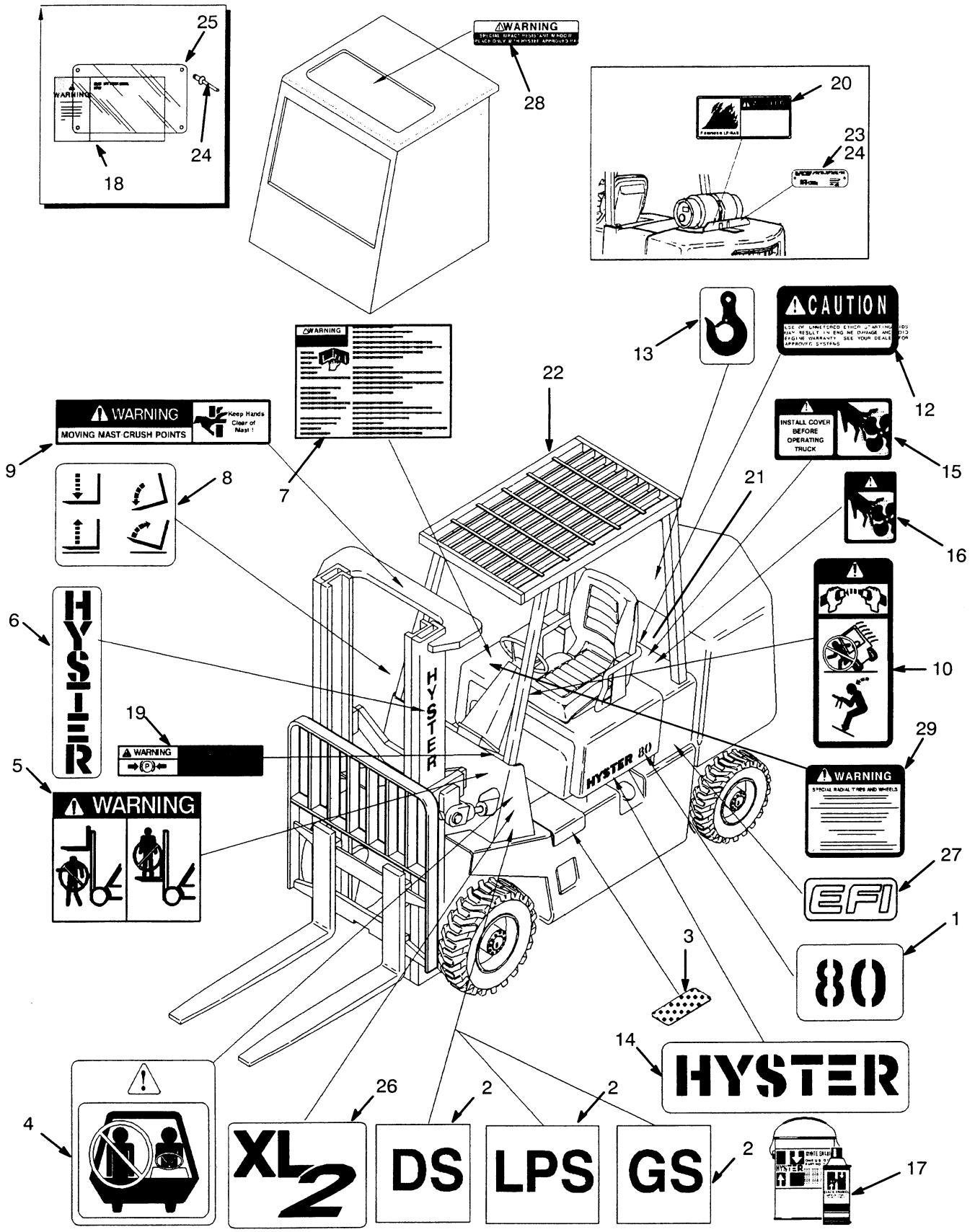
REF		PART NO.	NAME OF PART	QTY
1		1343969	Counterweight (H70XL)	1
1		1343970	Counterweight (H80XL)	1
1		1343971	Counterweight (H90XL)	1
1		1343974	Counterweight (H90XLS)	1
1		1343972	Counterweight (H100XL)	1
1		1343973	Counterweight (H110XL)	1
2	a	352909	Plate	AR
2	a	353191	Tape	AR
3		149531	Washer	1
4		15168	Washer	1
5		17387	Capscrew (H70, 80XL)	1

REF		PART NO.	NAME OF PART	QTY
5		141596	Bolt (H90-110XL, 90XLS)	1
6		302492	Pin	1
7		387473	Pin	1
8		1337734	Plug	2
9	b	1383792	Shim	AR
10	b	292681	Lockwasher	2
11	b	320158	Washer	2
12	b	292654	Nut	2

a Last Used On S/N G5D-9851
b First Used On S/N G5D-9852

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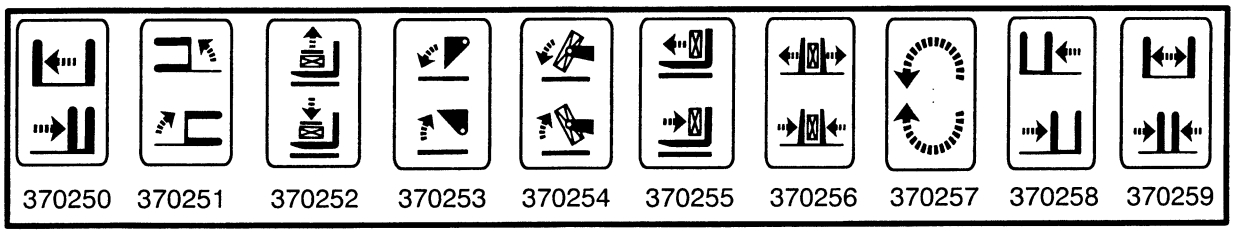
LABELS AND PAINT (FIGURE 8)



LABELS AND PAINT

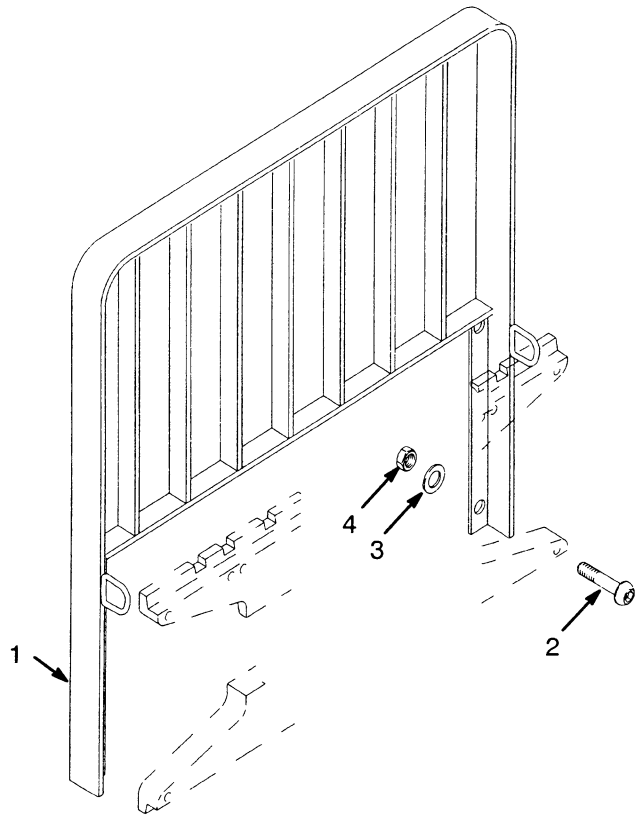
REF	PART NO.	NAME OF PART	QTY
1	380325	Label-Model 70	2
1	380326	Label-Model 80	2
1	380327	Label-Model 90	2
1	380328	Label-Model 100	2
1	380329	Label-Model 110	2
2	154067	Label-DS	2
2	154066	Label-LPS	2
2	154065	Label-GS	2
3	1319860	Tread-Slip Resistant	2
4	1330920	Label-No Riders	2
5	1338178	Label-Mast Warning	2
6	1344132	Label-Hyster	2
6	1345836	Label-Hyster (Optional)	2
7	1336605	Label-Operator Warning	1
8	369573	Label-Lift/Tilt	1
9	1330919	Label-Mast Warning	1
10	1330917	Label-Tipover Warning	2
11	....	Label-Auxiliary (See Chart)	AR
12	2034459	Label-Ether Warning	1
13	316448	Label-Lift Eye	3
14	1325273	Label-Hyster	2
15	1325271	Label-Fan	1
16	1345939	Label-Fan	1
17	1345809	Paint-Nugget Yellow (Spray)	AR
17	1345808	Paint-Nugget Yellow (1 Gal)	AR
17	1344901	Paint-Low Gloss Black (Spray)	AR
17	1344902	Paint-Low Gloss Black (1 Gal)	AR
17	316844	Paint-Red Spray	AR
17	328626	Paint-Hi-Temp. Black (Spray)	AR
17	1346270	Paint-Black Powder (Spray)	AR
18	....	Nameplate (Contact Dealer)	1
19	1335146	Label-Park Brake	1
20	8504324	Label-LPG Flammability	1
21	1354165	Label-Antifreeze	1
22	1339844	Plate-Impact Test	1
23	329029	Label-LPG Tank Ident	1
24	170658	Rivet	4
25	389694	Cover	1
26	1346853	Label-XL2	2
26	1359706	Label-XL2 (Optional For Black Cab)	2
27	1345998	Label-EFI	2
28 [a]	1308050	Label-Impact Resistant	1
29	1374549	Label-Radial Tire Warning	1

[a] With Cab



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LOAD BACKREST EXTENSION (FIGURE 9)



REF-NO	PART	HOOK TYPE FORKS				PIN TYPE FORKS	
		Model	Standard	Polished, Full-Bottom Tapered	QTY	Standard	QTY
1	Extension 42 in 42 in	 70-80XL 90-120XL	 1338645 327439	1345267	 1 1	.....	.....
	Extension 48 in 48 in	 70-80XL 90-120XL	 1365778 294295	1376365	1	 66487A 66487A	 1 1
	Extension 54 in	70-80XL	1370641	1376360	1	.....	.....
	Extension 60 in 60 in	 70-80XL 90-120XL	 1376358 312430	1376359	1	.....	.....
	Extension 62 in	.....	.....	.....	.....	[b] 207016	1
2	Capscrew	.....	1354923	1354923	4	1354923	1
3	Washer	....	221771 [a] 296423	221771 [a] 296423	4	221771 [a] 296423	1
4	Nut	.....	300937	300937	4	300937	1

[a] Optional

[b] Not Available on Three-Stage Full Free Lift Mast

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ENGINE

CAMSHAFT & OIL PAN (Figure 30)
GASOLINE & LPG
5LM 1995 SERIES ENGINE ..... Page 60

CAMSHAFT AND CRANKSHAFT (Figure 17)
GASOLINE & LPG
2KM 1992 SERIES ENGINE ..... Page 34

CAMSHAFT AND CRANKSHAFT (Figure 21)
GASOLINE & LPG
3KM 1993 SERIES ENGINE ..... Page 42

CAMSHAFT AND OIL PAN (Figure 38)
GASOLINE AND LPG
2000 series engine ..... Page 76

CAMSHAFT AND OIL PAN (Figure 26)
GASOLINE & LPG
4LM 1994 SERIES ENGINE ..... Page 52

CAMSHAFT AND OIL SUMP (Figure 37)
GASOLINE AND LPG ..... Page 74

COOLANT PUMP (Figure 49)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 98

COOLANT PUMP (Figure 57)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942,
LAST USED ON ENGINE S/N U892125D ..... Page 114

COOLING SYSTEM (Figure 12)
GASOLINE AND LPG ..... Page 24

COOLING SYSTEM (Figure 40)
DIESEL ..... Page 80

CRANKSHAFT AND PISTONS (Figure 43)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 86

CRANKSHAFT AND PISTONS (Figure 52)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 104

CYLINDER BLOCK (Figure 15)
GASOLINE & LPG
2KM 1992 SERIES ENGINE ..... Page 30

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ENGINE (Continued)

CYLINDER BLOCK (Figure 19)
GASOLINE & LPG
3KM 1993 SERIES ENGINE ..... Page 38

CYLINDER BLOCK (Figure 23)
GASOLINE & LPG
4LM 1994 SERIES ENGINE ..... Page 46

CYLINDER BLOCK (Figure 27)
GASOLINE & LPG
5LM 1995 SERIES ENGINE ..... Page 54

CYLINDER BLOCK (Figure 31)
GASOLINE AND LPG ..... Page 62

CYLINDER BLOCK (Figure 32)
GASOLINE AND LPG
2000 series engine ..... Page 64

CYLINDER BLOCK (Figure 41)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 82

CYLINDER BLOCK (Figure 50)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 100

CYLINDER HEAD (Figure 16)
GASOLINE & LPG
2KM 1992 SERIES ENGINE ..... Page 32

CYLINDER HEAD (Figure 20)
GASOLINE & LPG
3KM 1993 SERIES ENGINE ..... Page 40

CYLINDER HEAD (Figure 24)
GASOLINE & LPG
4LM 1994 SERIES ENGINE ..... Page 49

CYLINDER HEAD (Figure 28)
GASOLINE & LPG
5LM 1995 SERIES ENGINE ..... Page 56

CYLINDER HEAD (Figure 33)
GASOLINE AND LPG ..... Page 66

CYLINDER HEAD (Figure 34)
GASOLINE AND LPG
2000 SERIES ENGINE ..... Page 68

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ENGINE (Continued)

CYLINDER HEAD (Figure 42)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 84

CYLINDER HEAD (Figure 51)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 102

ENGINE MOUNTS (Figure 10) ..... Page 21

EXHAUST (Figure 59) ..... Page 118

FLYWHEEL HOUSING (Figure 11) ..... Page 22

MANIFOLDS (Figure 48)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 96

MANIFOLDS (Figure 56)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 112

OIL FILTER (Figure 44)
DIESEL ..... Page 88

OIL PAN AND PUMP (Figure 46)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 92

OIL PAN AND PUMP (Figure 54)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 108

OIL PUMP (Figure 18)
GASOLINE & LPG
2KM 1992 SERIES ENGINE ..... Page 36

OIL PUMP (Figure 22)
GASOLINE & LPG
3KM 1993 SERIES ENGINE ..... Page 44

OIL PUMP (Figure 39)
GASOLINE & LPG
4LM 1994, 5LM 1995, 1996 THRU 2000 SERIES ENGINE ..... Page 78

SERPENTINE BELT DRIVE (Figure 13)
GASOLINE AND LPG
USED ON S/N G005D-4578 THRU G005D-7759
(INCLUDING S/N 7830-7832, 7834-7837,7840, AND 7841)
EXCEPT S/N G005D-7710 ..... Page 26

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ENGINE (Continued)

SERPENTINE BELT DRIVE (Figure 14)
GASOLINE AND LPG
FIRST USED ON S/N G005D-7760
(EXCEPT S/N 7830-7832, 7834-7837, 7840, AND 7841)
AND INCLUDES S/N G005D-7710 ..... Page 28

TIMING GEAR (Figure 45)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 90

TIMING GEAR (Figure 53)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 106

VALVE COVER AND INLET MANIFOLD (Figure 36)
GASOLINE AND LPG
2000 series engine ..... Page 72

VALVE COVER AND INTAKE MANIFOLD (Figure 25)
GASOLINE & LPG
4LM 1994 SERIES ENGINE ..... Page 50

VALVE COVER AND ROCKER SHAFT (Figure 47)
DIESEL (WITHOUT LOW EMISSIONS)
LAST USED ON S/N G005D-11942 ..... Page 94

VALVE COVER AND ROCKER SHAFT (Figure 55)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N G005D-11942 ..... Page 110

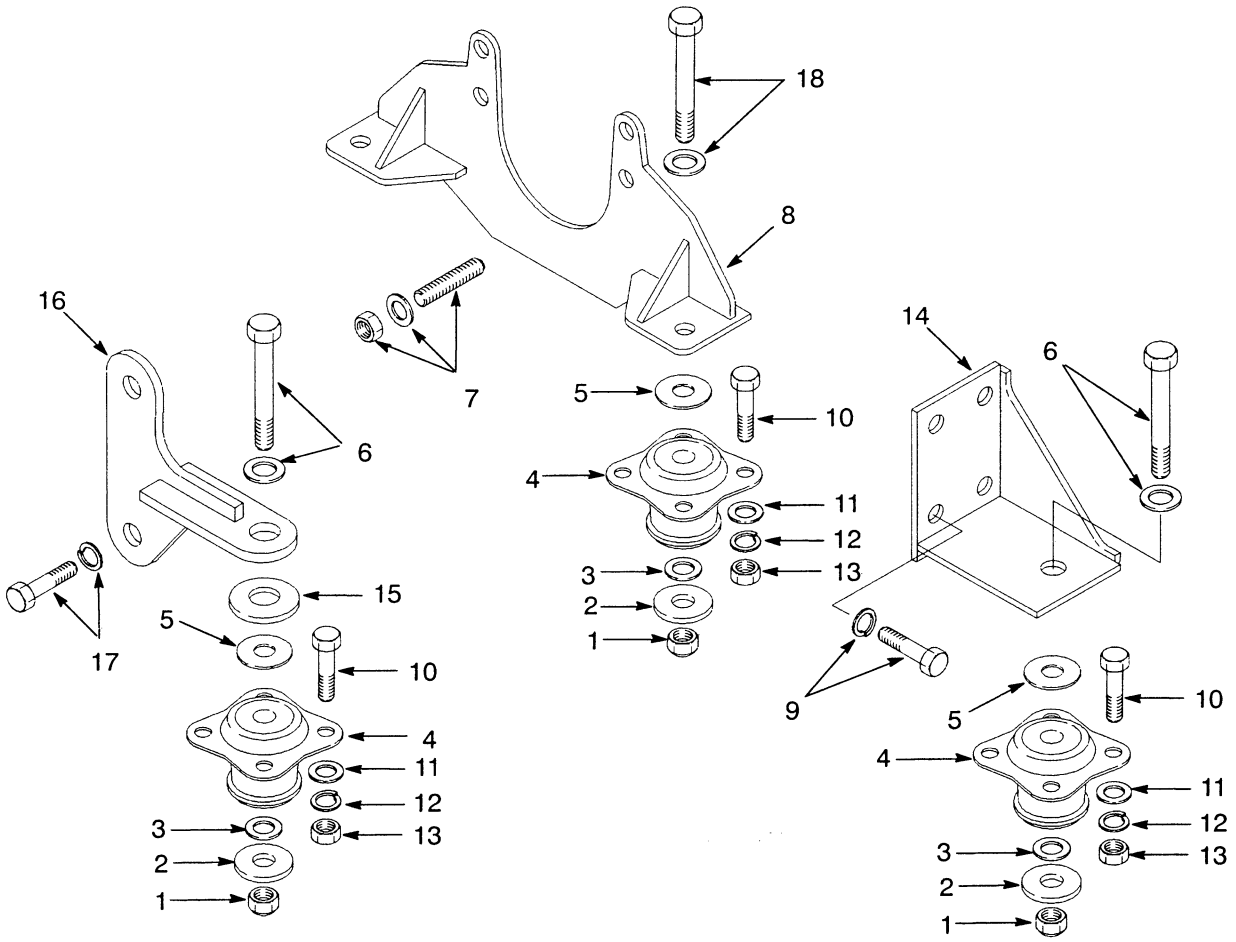
VALVE COVER (Figure 35)
AND INLET MANIFOLD
GASOLINE AND LPG ..... Page 70

VALVE COVERS & INLET MANIFOLD (Figure 29)
GASOLINE & LPG
5LM 1995 SERIES ENGINE ..... Page 58

WATER PUMP (Figure 58)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON ENGINE S/N U892126D ..... Page 116

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ENGINE MOUNTS (FIGURE 10)



KEY:
A: Gasoline/LPG
B: Diesel

REF		PART NO.	NAME OF PART	QTY A	QTY B
1		300937	Nut	4	4
2		370263	Washer	4	4
3		320161	Washer	4	4
4	c	353005	Mount	4	4
4	d	1388597	Mount	4	4
5	c	353006	Washer	4	4
5	d	2021238	Washer	6	6
6		292540	Capscrew	2	2
6		300932	Washer	2	2
7		372006	Stud	4	..
7		226414	Adhesive	AR	AR
7		221767	Washer	4	..
7		139743	Locknut	4	..
8	a	1315428	Bracket	1	..
8	b	1383350	Bracket	1	..
9		292527	Capscrew	..	8
9		292683	Washer	..	8
9		313022	Sealant	AR	AR

REF	PART NO.	NAME OF PART	QTY A	QTY B
10	221500	Capscrew	8	8
11	221767	Washer	8	8
12	292682	Lockwasher	8	8
13	221708	Nut	8	8
14	377354	Bracket	..	2
15	340796	Washer	AR	AR
16	1302248	Bracket	2	2
17	292560	Capscrew	4	4
17	292685	Lockwasher	4	4
18	292539	Capscrew	2	2
18	300932	Washer	2	2

a Last Used On S/N G005D-7759 (Including S/N 7830-7832, 7834-7837, 7840 And 7841) Except S/N G005D-7710

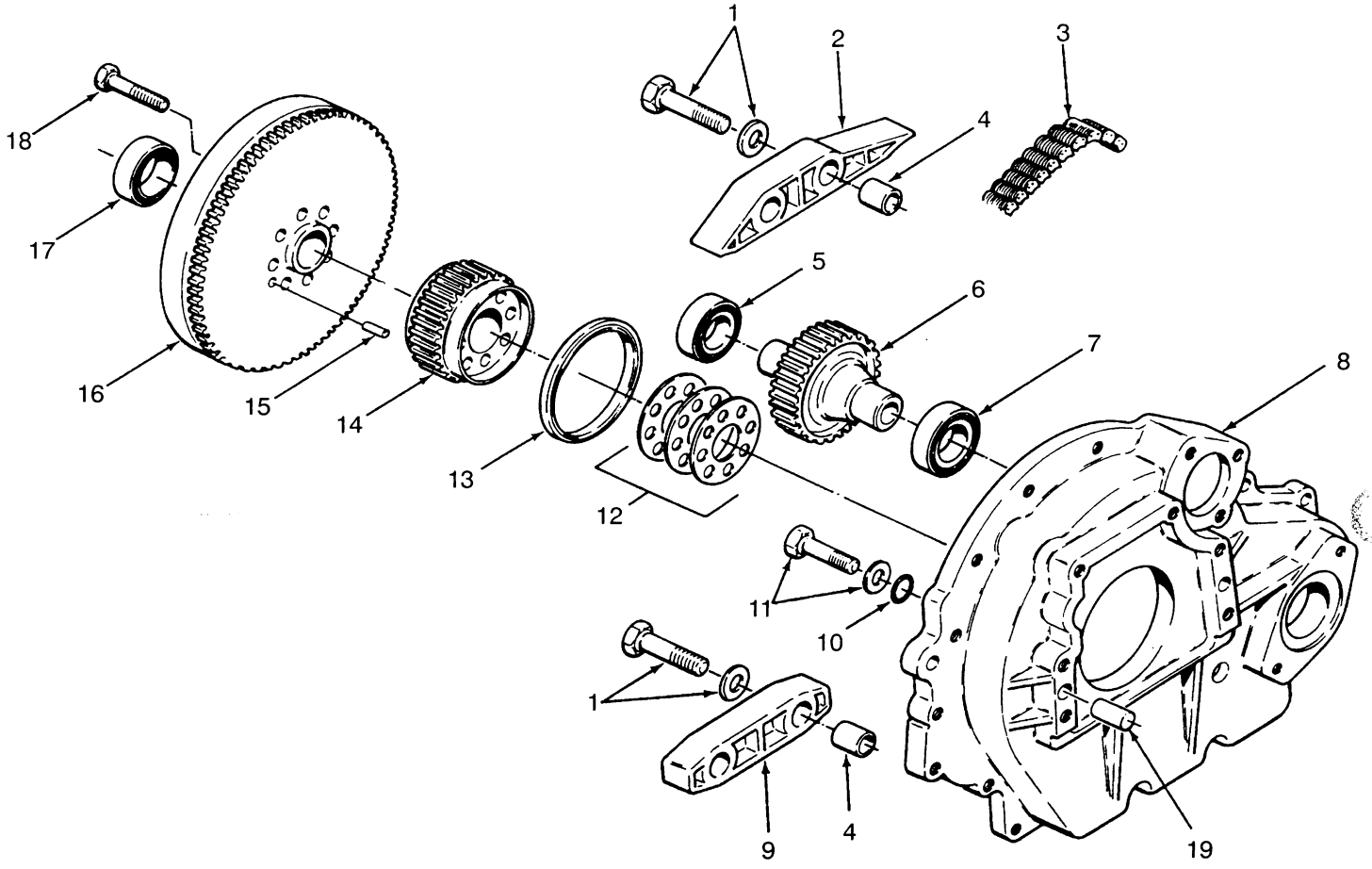
b First Used On S/N G005D-7760 (Except For S/N7830-7832, 7834-7837, 7840 And 7841) And Includes S/N G005D-7710

c Last Used On S/N G005D-9539

d First Used On S/N G005D-9540

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FLYWHEEL HOUSING (FIGURE 11)



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FLYWHEEL HOUSING

KEY:
A: Gasoline/LPG
B: Diesel

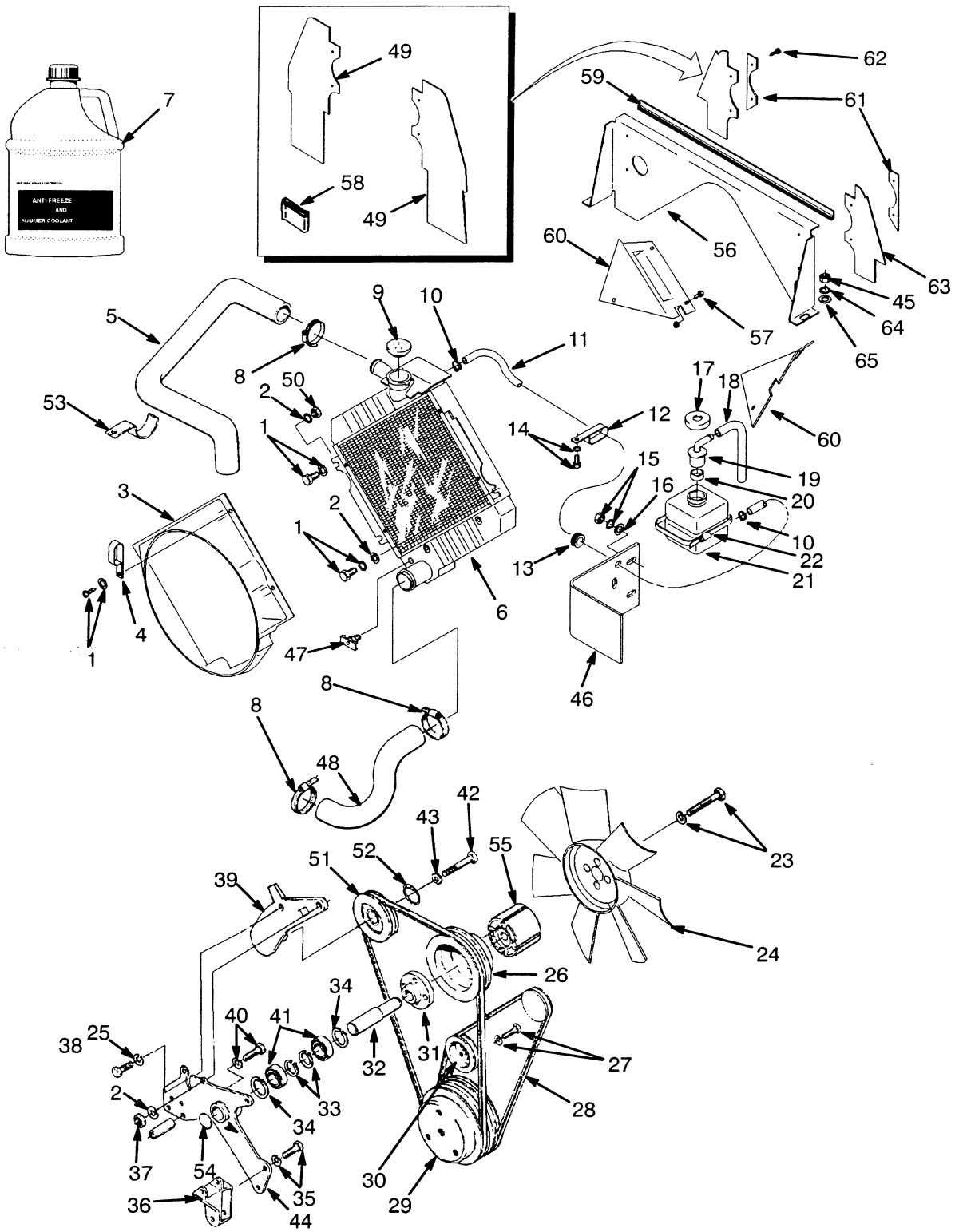
REF	PART NO.	NAME OF PART	QTY A	QTY B
1	176640	Capscrew	4	4
1	320157	Washer	4	4
2	245262	Snubber (Top)	1	1
3	259660	Chain	1	1
4	344992	Spacer	4	4
5	43206	Bearing	1	..
5	128470	Bearing	..	1
6	344984	Sprocket	1	1
7	41207	Bearing	1	1
8	373081	Housing	1	..
8	1383224	Housing (Optional)	1	..
8	370699	Housing	..	1
9	344991	Snubber	1	1
10	184924	O-Ring	6	6
11	221506	Capscrew	6	..
11	293634	Capscrew	..	6
11	261379	Washer	6	..
11	221767	Washer	..	6
12	373086	Shim (0.005 in)	AR	..
12	373087	Shim (007 in)	AR	..
12	373088	Shim (0.020 in)	AR	..
12	193212	Shim (0.005 in)	..	AR
12	193213	Shim (007 in)	..	AR
12	193214	Shim (0.020 in)	..	AR
13	373105	Seal	1	..
13	355521	Seal	..	1
14	373083	Sprocket	1	..
14	344982	Sprocket	..	1
15	222727	Dowel Pin	1	..
16	350151	Flywheel (Oil Clutch)	1	..
16 c	1352282	Flywheel (Powershift) (2200 RPM)	1	..
16 e	1459401	Flywheel (Powershift) (2200 RPM)	1	..
16 c	350152	Flywheel (Powershift) (2500 RPM)	1	..
16 e	1459400	Flywheel (Powershift) (2500 RPM)	1	..
16 a	352476	Flywheel (Oil Clutch)	..	1
16 b	1454602	Flywheel (Oil Clutch)	..	1
16	1352285	Flywheel (Powershift) (2200) RPM)	..	1
16 a	344357	Flywheel (Powershift) (2500) RPM)	..	1
16 a	1454600	Flywheel (Powershift) (2500) RPM)	..	1
16	195856	Ring Gear	1	1
17	43205	Ball Bearing (Powershift)	1	1
18	344993	Bolt	6	..
18	193219	Bolt	..	6
19	186420	Dowel Pin	..	2

a Last Used On S/N G005D-11495
b First Used On S/N G005D-11496
c Last Used On S/N G005D-12988
e First Used On S/N G005D-12989

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COOLING SYSTEM (FIGURE 12)

GASOLINE AND LPG



COOLING SYSTEM

GASOLINE AND LPG

REF		PART NO.	NAME OF PART	QTY
1		136985	Capscrew	3
1		292682	Lockwasher	3
2		320159	Washer	4
3		1343926	Shroud	1
3		1343962	Shroud (Metal, Optional)	1
4		128259	Clamp (Some Early Models)	1
5		1360152	Hose	1
6	h	1387260	Radiator	1
6	j	1452142	Radiator	1
7		3002338	Anti-Freeze, 1 Gallon	AR
8		119236	Clamp	4
9		178899	Radiator Cap	1
10		353310	Clamp	2
11		1305436	Tube	1
12		124297	Clamp	1
13		279737	Grommet	1
14		16073	Capscrew	3
14		15127	Lockwasher	3
15		239503	Nut	2
15		292681	Lockwasher	2
16		320158	Washer	2
17		345454	Cap	1
18		339735	Hose	1
19		345453	Outlet	1
20		336550	Bushing	1
21		344432	Reservoir	1
22		340204	Strap	1
23		136750	Capscrew	4
23		292681	Lockwasher	4
24	e	1356963	Fan (Pusher)	1
25		292682	Washer	2
26	e	1356962	Pulley	1
27		16818	Capscrew	4
27		292681	Lockwasher	4
28	e	353393	V-Belt	2
29	e	350070	Pulley	1
30	e	373121	Pulley	1
31	e	1356964	Spacer	1
32	e	374034	Shaft	1
32		257291	Adhesive	AR
33	e	160996	Snap Ring	2
34		12928	Snap Ring	2
35		18547	Capscrew	2
35		15156	Lockwasher	2
36	e	344351	Mount	1
37		15056	Nut	3
38		18549	Capscrew	1
39	eg	1359100	Bracket	1
40		18542	Capscrew	3
40		15156	Washer	1
41		128469	Ball Bearing	2
42		16828	Capscrew	1
42		15156	Lockwasher	1
43		15134	Washer	1
44	e	1328888	Bracket	1
45	bc	239503	Nut	6
46		352609	Bracket	1
47		12815	Drain Valve	1
48	e	352490	Hose	1
48	f	1380854	Hose	1
49		1358603	Seal (Optional)	2
49	c	1343937	Seal	2
50		136692	Nut	2
51	eg	1359103	Idler Assembly	1
51		1359102	Idler Pulley	1
51		3002793	Bearing	1
51		12928	Snap Ring	2
52	g	54123	Snap Ring	2
53		1305166	Clamp	1
54		1305150	Plug	1
55	e	1356961	Extension	1
56	d	1339820	Baffle	1
57		1301177	Screw	1
58		1343927	Clip	2
58		1329271	Clip (For Optional Shroud)	2
59		1343320	Trim	1
60	bc	1343300	Baffle, LH	1
60	bc	1343301	Baffle, RH	1
61		1357930	Retainer	4
62		1301177	Screw	4
63	a	1358604	Radiator Seal	2
64	bc	292681	Lockwasher	6
65	bc	320159	Washer	6

a H90-110XL
b H90XLS
c H70-80XL
d Without Noise Reduction
e Last Used On S/N G005D-4577 (☞ Figure 13)
f First Used On S/N G005D-4578
g Included in Idler Pulley Kit 1359104
h Last Used On S/N G005D-10472
j First Used On S/N G005D-10473

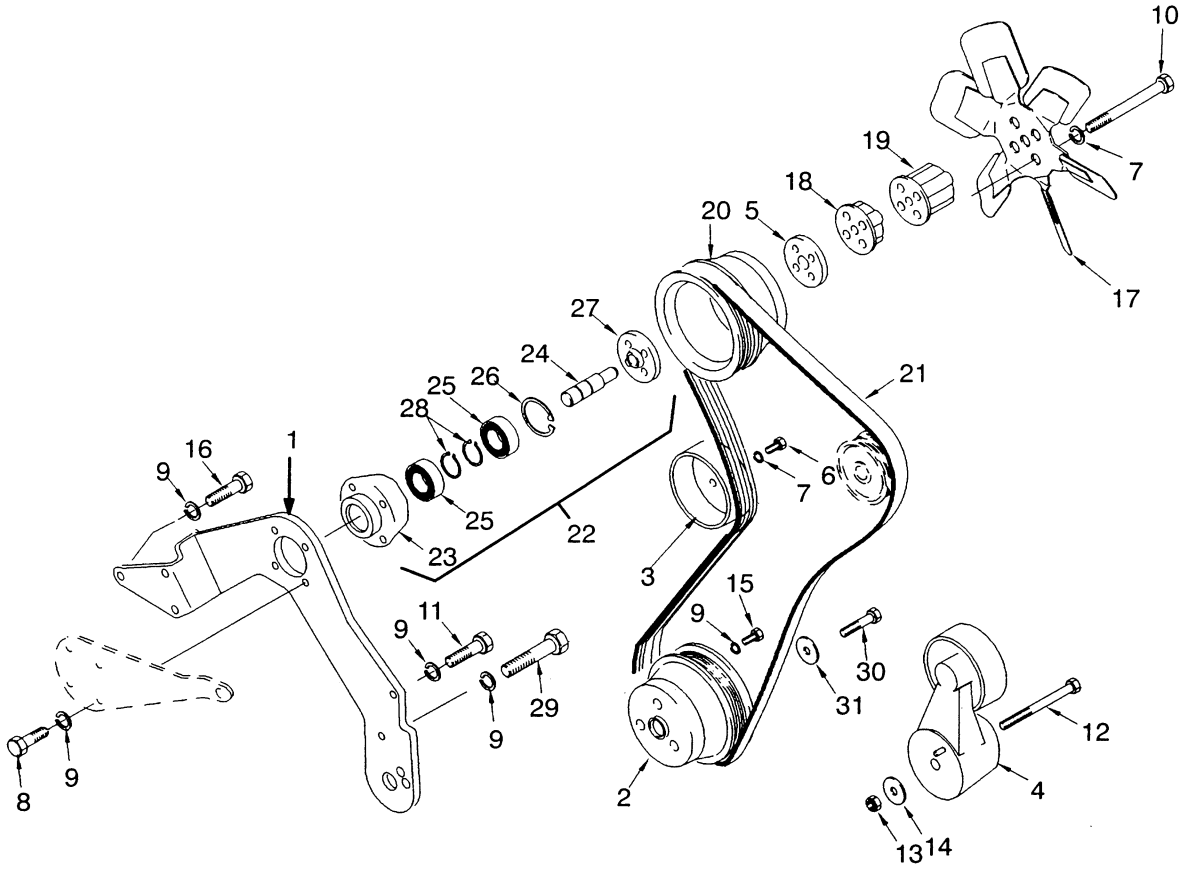
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SERPENTINE BELT DRIVE (FIGURE 13)

GASOLINE AND LPG

USED ON S/N G005D-4578 THRU G005D-7759

(INCLUDING S/N 7830-7832, 7834-7837,7840, AND 7841) EXCEPT S/N G005D-7710



REF		PART NO.	NAME OF PART	QTY
1		1377741	Bracket	1
2		1377750	Pulley	1
3		1377735	Pulley (Water Pump)	1
4		1377752	Tensioner	1
5		1377736	Spacer	1
6		136681	Capscrew	4
7		292681	Lockwasher	8
8		287860	Capscrew	4
9		292682	Lockwasher	12
10		18525	Capscrew	4
11		18547	Capscrew	1
12		292524	Capscrew	1
13		316826	Nut	1
14		1377774	Washer	1
15		16634	Capscrew	3
16		16805	Capscrew	3
17	a	1374774	Fan	1
17	b	1454560	Fan	1

REF	PART NO.	NAME OF PART	QTY
18	1377781	Spacer (Fan)	1
19	1377791	Spacer (Fan)	1
20	1377762	Pulley	1
21	1377755	Belt	1
22	....	Fan Mount Assy	1
23	1377745	Hub	1
24	1377749	Shaft	1
25	128469	Bearing	2
26	12928	Snap Ring	1
27	172885	Spacer	1
27	257291	Adhesive	AR
28	131357	Snap Ring	2
28	160996	Snap Ring (Optional)	2
29	18549	Capscrew	1
30	221544	Capscrew	1
31	1305165	Washer	1

a Last Used On S/N G005D-11448

b First Used On S/N G005D-11449

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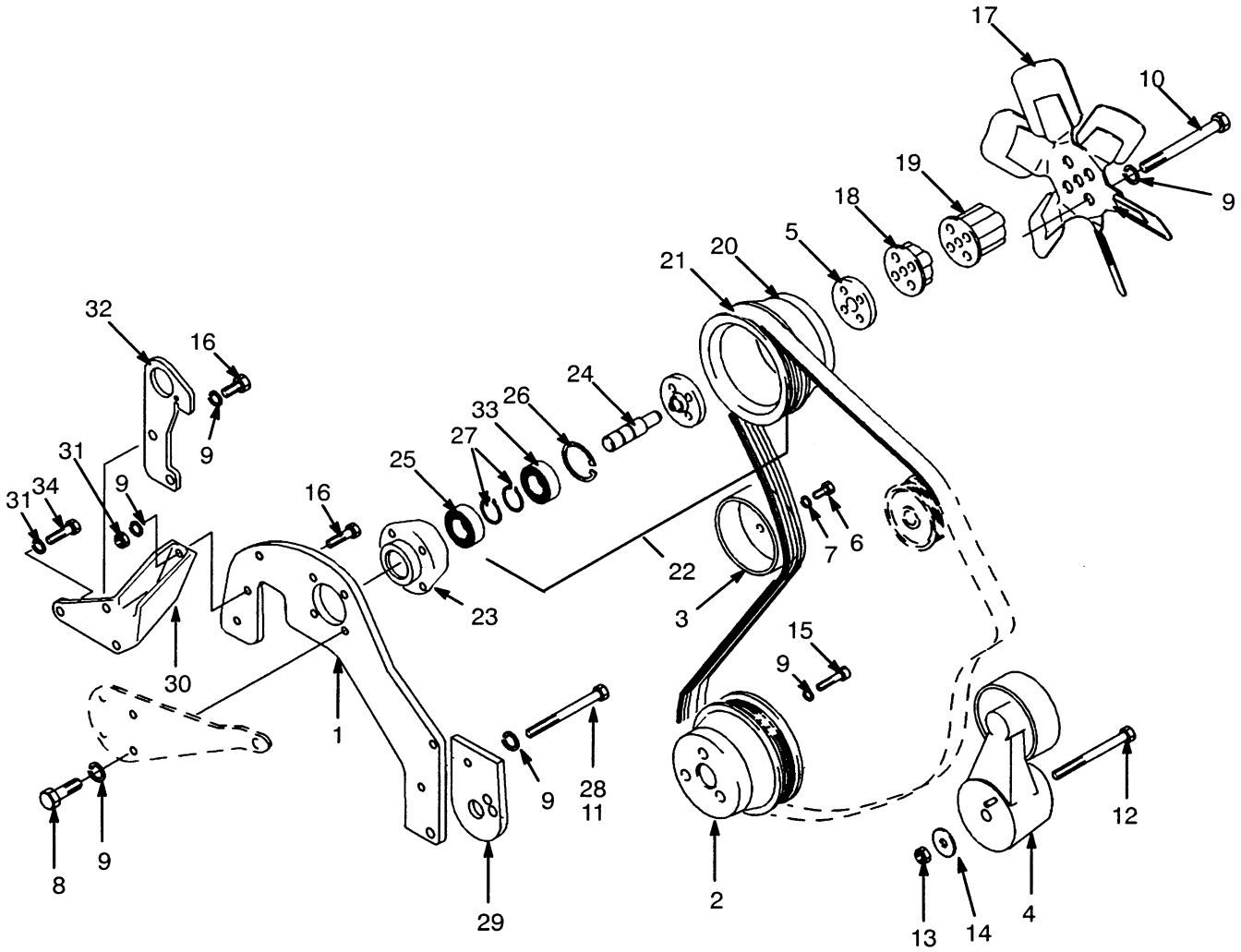
NOTE

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SERPENTINE BELT DRIVE (FIGURE 14)

GASOLINE AND LPG

FIRST USED ON S/N G005D-7760 (EXCEPT S/N 7830-7832, 7834-7837, 7840, AND 7841) AND INCLUDES S/N G005D-7710



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SERPENTINE BELT DRIVE

GASOLINE AND LPG

FIRST USED ON S/N G005D-7760 (EXCEPT S/N 7830-7832, 7834-7837, 7840, AND 7841) AND INCLUDES S/N G005D-7710

REF		PART NO.	NAME OF PART	QTY
1		1383225	Plate	1
2		1377750	Pulley	1
3		1383204	Pulley (Water Pump)	1
4		1377752	Tensioner	1
5		1377736	Spacer	1
6		136681	Capscrew	4
7		292681	Lockwasher	8
8		287860	Capscrew	4
9		292682	Lockwasher	14
10	c	18525	Capscrew	4
10	d	18529	Capscrew	4
11		18547	Capscrew	1
12		292524	Capscrew	1
13		316826	Nut	1
14		320159	Washer	1
15		16634	Capscrew	3
16		16815	Capscrew	3
17	e	1374774	Fan	1
17	f	1454560	Fan	1
18	c	1377781	Spacer (Fan) (25.4 mm)	1
19	c	1377791	Spacer (Fan) (38.10 mm)	1
19	d	1453247	Spacer (Fan) (76.0 mm)	1
20		1377762	Pulley	1
21		1377755	Belt	1
22	a	1377742	Fan Mount Assy	1
22	b	1389344	Fan Mount Assy	1
22	g	1459008	Fan Mount Assy	1
23		1377745	Hub	1
24	a	1377749	Shaft	1
24	b	1389340	Shaft	1
24	g	1459007	Shaft	1
25	b	128469	Bearing	1
25	g	1459011	Bearing	1
26		12928	Snap Ring	1
27		160996	Snap Ring	2
28		18549	Capscrew	1
29		1383226	Plate	1
30	a	1384333	Fan Bracket	1
30	b	1389346	Fan Bracket	1
31		15056	Nut	3
32		1383228	Plate	1
33		124668	Bearing	1
34		16816	Capscrew	2

a Last Used On S/N G005D-8330
b First Used On S/N G005D-8331 Thru S/N G005D-13791
c Last Used On S/N G005D-10675
d First Used On S/N G005D-10676
e Last Used On S/N G005D-11448
f First Used On S/N G005D-11449
g First Used On S/N G005D-13791

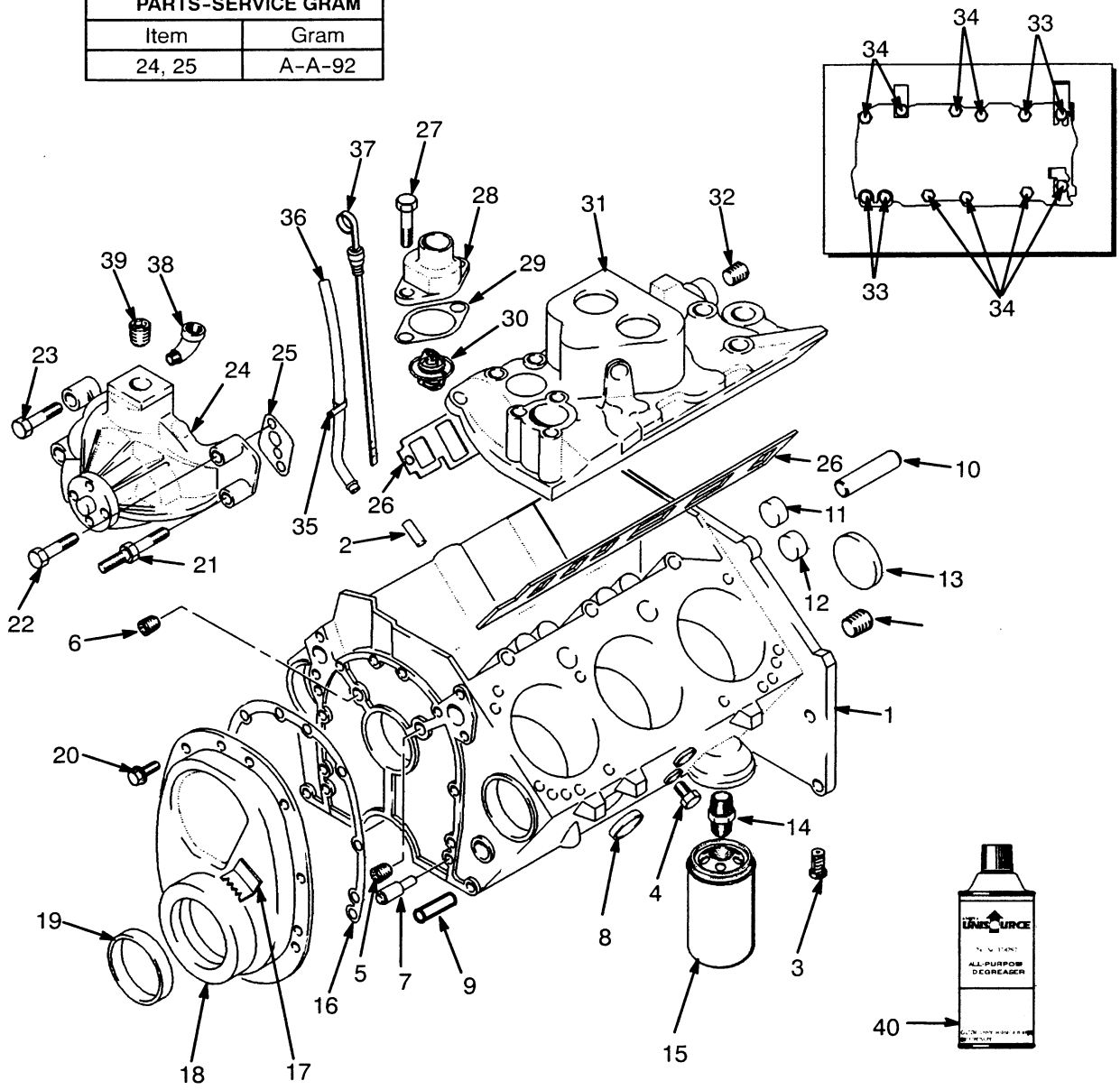
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CYLINDER BLOCK (FIGURE 15)

GASOLINE & LPG

2KM 1992 SERIES ENGINE

PARTS-SERVICE GRAM	
Item	Gram
24, 25	A-A-92



CYLINDER BLOCK

GASOLINE & LPG

2KM 1992 SERIES ENGINE

REF	PART NO.	NAME OF PART	QTY
	1331603	Engine	1
1	1343167	Engine Subassembly	1
2	159977	Pin	4
3	1358156	Bypass Valve	1
4	274232	Plug	4
5	1335498	Plug	1
6	388302	Plug	1
7	263844	Pin	2
8	169718	Plug	8
9	263844	Pin	2
10	1335499	Pin	2
11	1335216	Plug	1
12	375601	Pin	1
13	263788	Plug (Rear)	1
14	375587	Fitting	1
15	1320000	Oil Filter	1
16	375590	Joint	1
17	375589	Indicator	1
18	1347918	Cover	1
19	326359	Gasket	1
20	370169	Screw & Washer	10
21	263827	Stud	1
22	185768	Capscrew	1
23	221506	Capscrew	1
24	381355	Water Pump	1
24	369748	Washer	6
24	133469	Capscrew	6
24	1335494	Joint	1
24	1339962	Bearing	1
25	263828	Joint	2
26	1338675	Kit-Gasket	1
27	161195	Capscrew	2
28	1343168	Water Outlet	1
29	1330725	Gasket	1
30	231522	Thermostat (180° F)	1
31	1338224	Intake Manifold	1
32	375595	Plug	4
33	1335241	Plug	4
34	375597	Bolt	8
35	133696	Clamp	1
36	369139	Tube	1
36	288394	Sealant	AR
37	388514	Dipstick	1
38	19521	Fitting (Gasoline)	1
39	15962	Plug	1
40	178297	Degreaser	AR

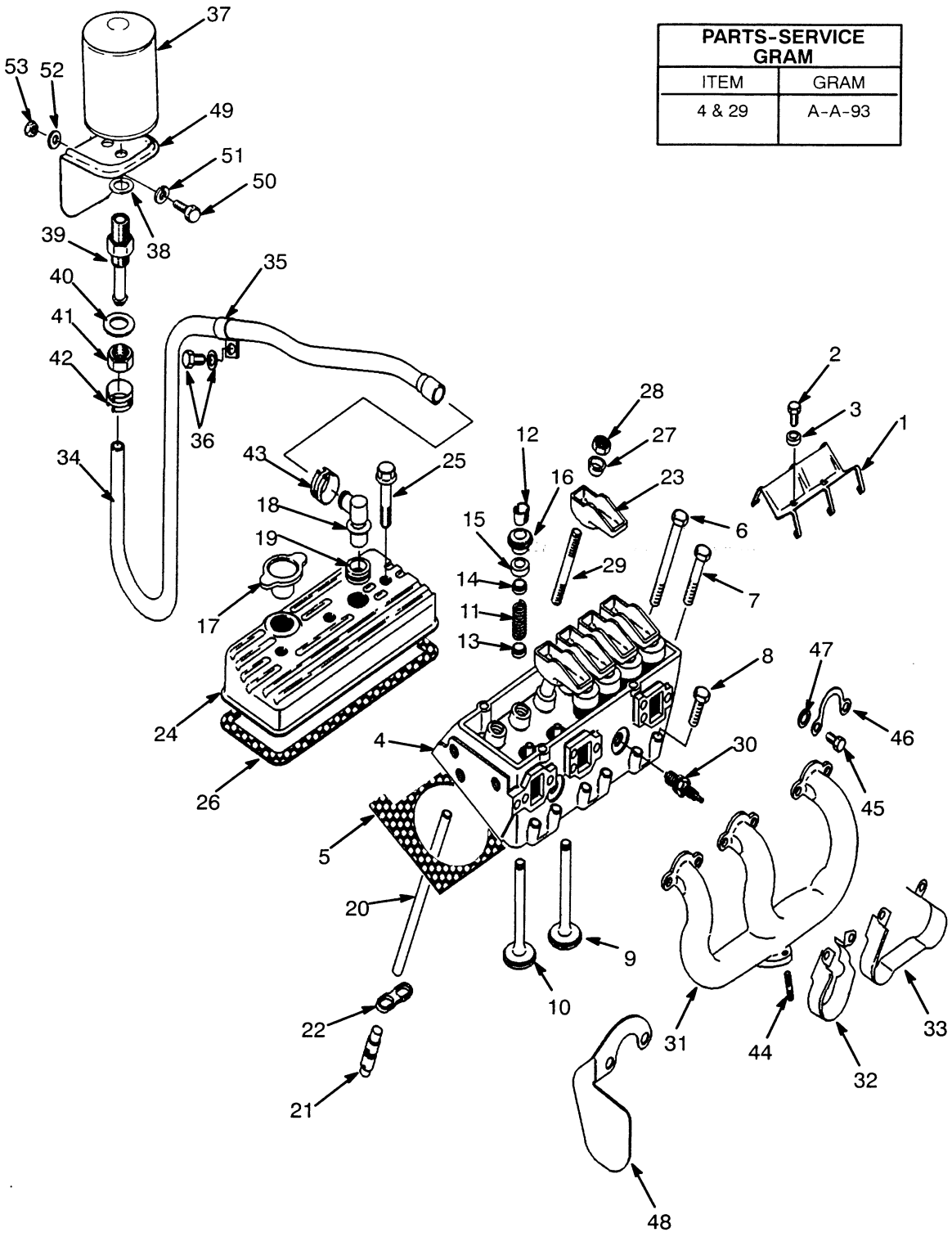
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CYLINDER HEAD (FIGURE 16)

GASOLINE & LPG

2KM 1992 SERIES ENGINE

PARTS-SERVICE GRAM	
ITEM	GRAM
4 & 29	A-A-93



CYLINDER HEAD

GASOLINE & LPG

2KM 1992 SERIES ENGINE

REF		PART NO.	NAME OF PART	QTY
		1331603	Engine	1
		1343167	Engine Subassembly	1
1		1335063	Retainer	1
2		16374	Capscrew	4
3		197068	Washer	4
4		1367479	Cylinder Head	2
5	a	1386190	Gasket	2
6		375567	Bolt (3.75 in)	10
7		375568	Bolt (3.00 in)	4
8		263847	Bolt (1.75 in)	12
9		375557	Intake Valve (Standard)	6
9		375558	Intake Valve (0.003 in O/S)	6
9		375559	Intake Valve (0.015 in O/S)	6
9		375560	Intake Valve (0.030 in O/S)	6
10		265512	Exhaust Valve (Standard)	6
10		254384	Exhaust Valve (0.015 in O/S)	6
11		263748	Valve Spring	12
12		263750	Valve Keeper	24
13		375564	Seal (Intake Valve)	6
13		375565	Seal (Exhaust Valve)	6
14	a	145173	Seal	12
15		314539	Valve Stem Shield	12
16		149867	Rotator (Exhaust Valve)	6
16		312948	Cap (Intake Valve)	6
17		1369490	Oil Filler Cap	1
17		1369481	Oil Filler Cap (Optional)	1
18		321734	PCV Valve	1
19		1339961	Grommet	1
20		388356	Push Rod	12
21		1343902	Hydraulic Valve Lifter	12
22		1335062	Restrictor	6
23		1307964	Rocker Arm	12
24		1334422	Valve Cover, RH	1
24		375617	Valve Cover, LH	1
25		1335215	Bolt	4
26	a	375620	Gasket	2
27		281097	Ball	12
28		370150	Nut	12
29		1360868	Stud	12
30	b	197888	Spark Plug	6
31		1317472	Exhaust Manifold	2
32		1316494	Shield	2
33		1316488	Shield	2
34		1337871	Hose	1
35		325897	Clamp	1
36		292515	Capscrew	1
36		15162	Washer	1
37		1350036	Filter	1
38		1300152	Washer	1
39		379400	Fitting	1
40		15162	Lockwasher	1
41		14761	Nut	1
42		379405	Clamp	1
43		353199	Clamp	1
44		352903	Stud	6
45		16379	Capscrew	11
46		366686	Lockplate	6
47		1304392	Washer	12
48		352952	Shield	1
49		186998	Bracket	1
50		292501	Capscrew	2
51		320156	Washer	2
52		292680	Lockwasher	2
53		136687	Nut	2

a Included in Gasket Kit 1312809

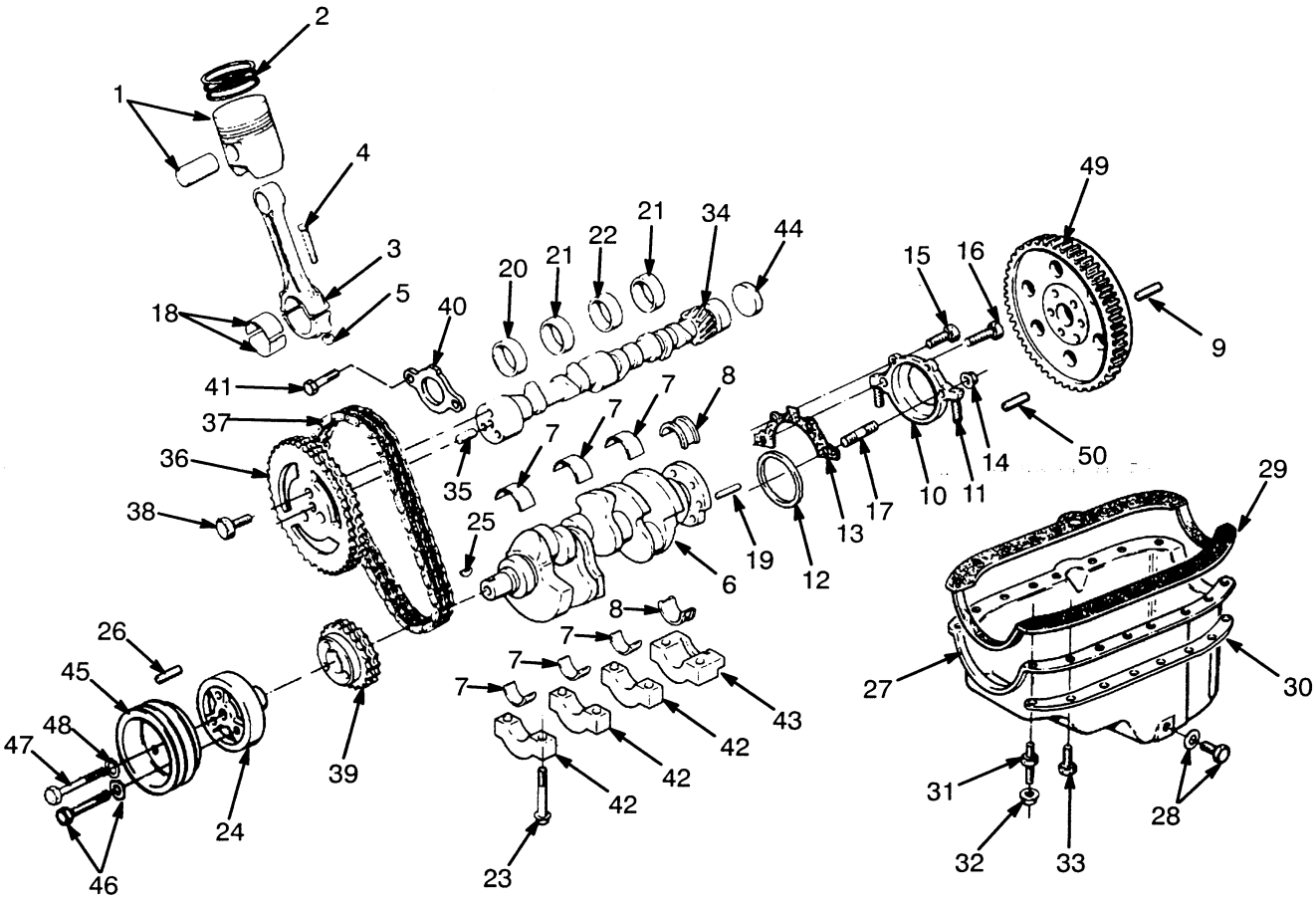
b Included in Major Tune-Up Kits 996337 & 996340

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CAMSHAFT AND CRANKSHAFT (FIGURE 17)

GASOLINE & LPG

2KM 1992 SERIES ENGINE



CAMSHAFT AND CRANKSHAFT

GASOLINE & LPG

2KM 1992 SERIES ENGINE

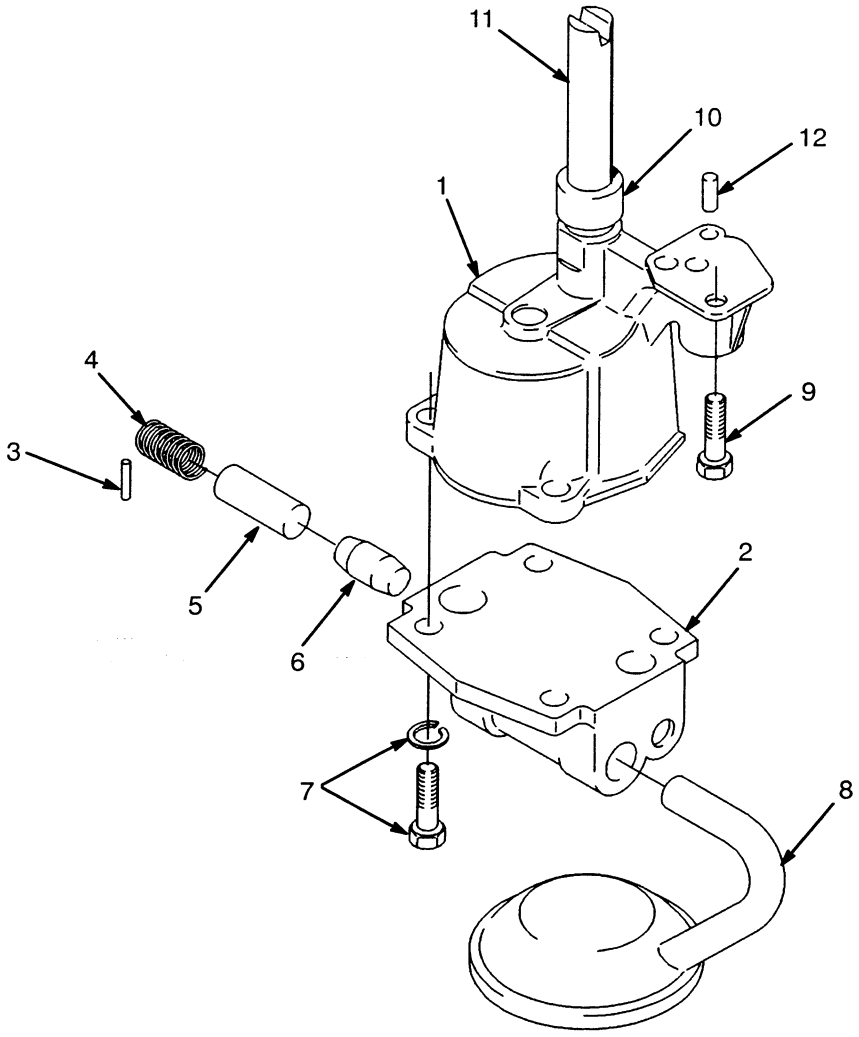
REF	PART NO.	NAME OF PART	QTY
	1331603	Engine	1
	1343167	Engine Subassembly	1
1	1374309	Piston (Standard)	6
1	1339969	Piston (0.005 in O/S)	6
1	1339970	Piston (0.030 in O/S)	6
2	306774	Piston Ring (Standard)	6
2	375550	Piston Ring (0.030 in O/S)	6
3	1360179	Connecting Rod	6
4	1360182	Bolt (Connecting Rod)	2
5	1375954	Nut (Connecting Rod)	2
6	375570	Crankshaft	1
7	375551	Bearing (Standard)	1
7	1324015	Bearing (0.010 in O/S)	1
7	1324016	Bearing (0.020 O/S)	1
7	1324017	Bearing (0.030 in O/S)	1
7	1324018	Bearing (0.040 in O/S)	1
8	1307958	Bearing (Standard)	1
8	1309839	Bearing (0.010 in O/S)	1
8	263765	Bearing (0.020 in O/S)	1
9	375601	Pin	1
10	1335227	Retainer	1
11	388364	Stud	2
12	1335228	Seal	1
13	1335212	Gasket	1
14	1335226	Nut	1
15	375575	Bolt	2
16	375602	Bolt	1
17	388364	Stud	1
18	375579	Bearing (Standard)	6
18	1324011	Bearing (0.010 in O/S)	6
18	1324012	Bearing (0.020 in O/S)	6
18	1324013	Bearing (0.030 in O/S)	6
18	1324014	Bearing (0.040 in O/S)	6
19	375571	Pin	1
20	301955	Bearing	1
21	301956	Bearing	2
22	301957	Bearing	1
23	263842	Bolt	8
24	1339967	Damper	1
25	1335057	Key	1
26	1338222	Pin	1
27	1306676	Oil Sump	1
28	308624	Drain Plug	1
28	388305	Gasket	1
29	375582	Gasket	1
30	1339971	Brace, LH	1
30	1339972	Brace, RH	1
31	388364	Stud	2
32	375584	Nut	4
33	16378	Capscrew	14
34	1342625	Camshaft	1
35	263844	Pin	1
36	1339974	Sprocket	1
37	375616	Timing Chain	1
38	221453	Capscrew	3
39	375615	Sprocket (Crankshaft)	1
40	1335064	Retainer (Camshaft)	1
41	1339963	Bolt	2
42	....	Bearing Cap	3
43	....	Bearing Cap	1
44	263788	Plug	1
45	350070	Pulley	1
46	16634	Capscrew	3
46	15156	Lockwasher	3
47	221544	Capscrew	1
48	1305165	Washer	1
49	....	Flywheel	1
		☞ Figure 11	
50	388364	Stud	1

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OIL PUMP (FIGURE 18)

GASOLINE & LPG

2KM 1992 SERIES ENGINE



REF	PART NO.	NAME OF PART	QTY
1	1307962	Oil Pump	1
2	1304786	Cover	1
3	1330453	Pin	1
4	145177	Spring	1
5	268573	Regulator Valve	1
6	1338223	Stop	1
7	1333541	Screw & Washer	4
8	375585	Screen	1
9	388306	Bolt	1
10	263795	Retainer	1
11	263794	Shaft	1
12	263844	Pin	1

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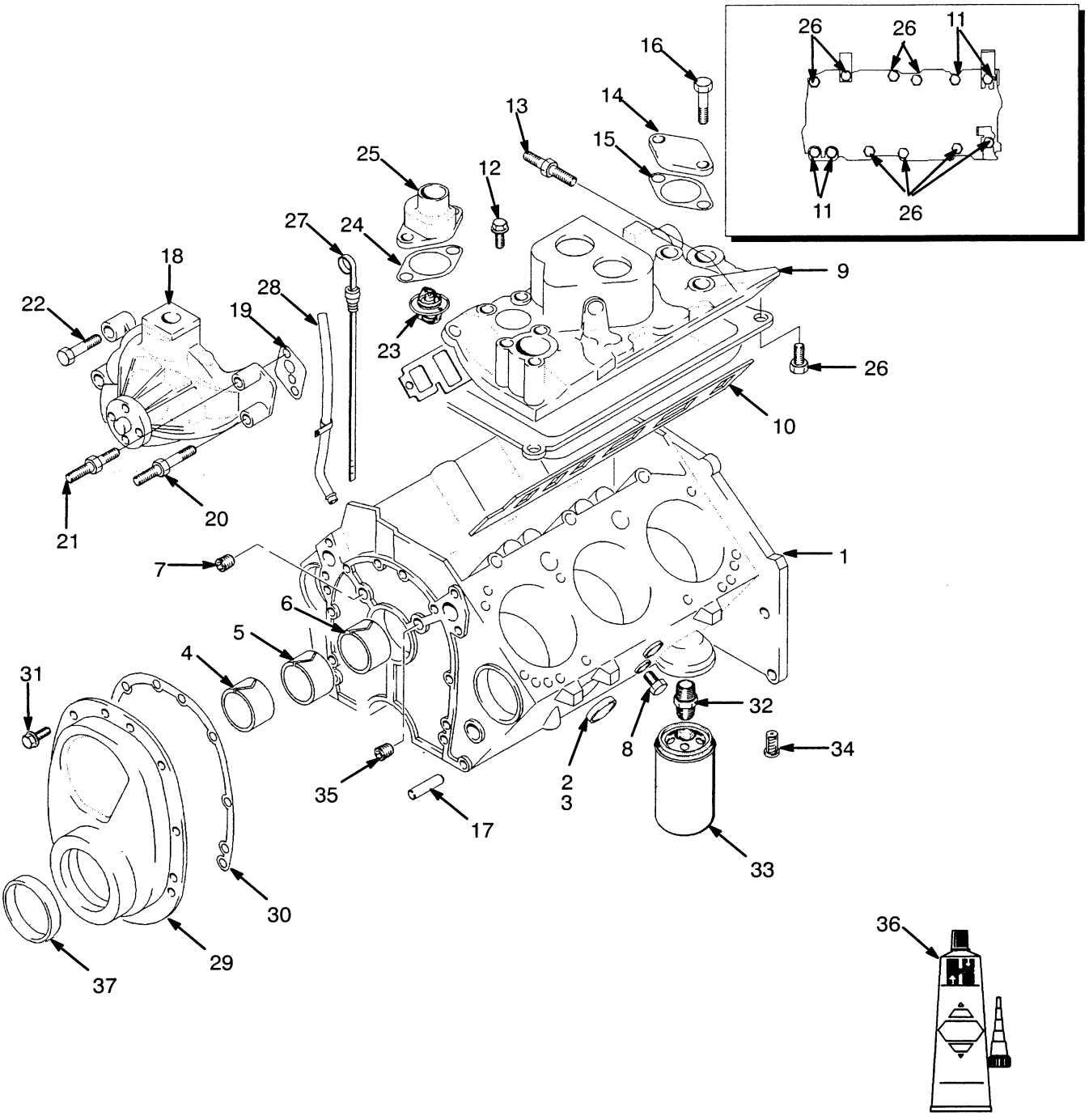
NOTE

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CYLINDER BLOCK (FIGURE 19)

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3KM 1993 SERIES ENGINE



CYLINDER BLOCK

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3KM 1993 SERIES ENGINE

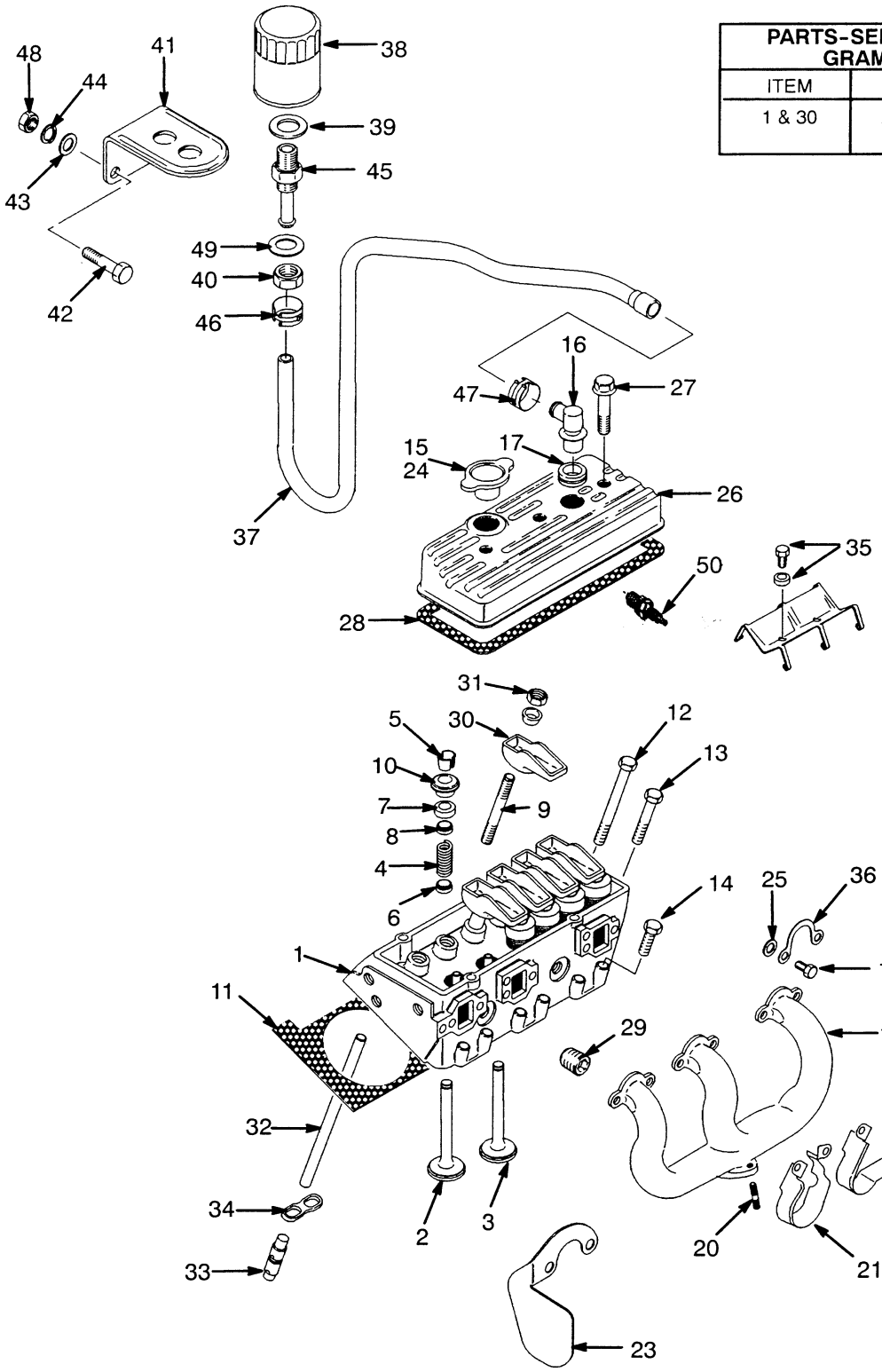
REF	PART NO.	NAME OF PART	QTY
	1356929	Engine	1
1	1371221	Cylinder Block	1
2	169718	Plug	8
3	1371222	Plug	8
4	301955	Bearing (Camshaft)	2
5	301956	Bearing (Camshaft)	1
6	301957	Bearing (Camshaft)	1
7	388302	Plug	2
8	274232	Plug	4
9	1374111	Manifold (Intake)	1
10	....	Gasket, RH	1
10	....	Gasket, LH	1
11	1335241	Plug	2
12	1335488	Bolt	1
13	375598	Stud	2
14	1374112	Cover (EGR Valve)	1
15	1374113	Gasket (EGR Valve)	1
16	1371232	Bolt (EGR Valve)	2
17	263844	Pin	6
18	381355	Water Pump	1
19	263828	Gasket	2
20	221506	Capscrew	1
21	185768	Capscrew	1
22	263827	Stud	1
23	1374109	Thermostat (180° F)	1
24	1374110	Seal	1
25	1371229	Water Outlet	1
26	375597	Bolt	8
27	388514	Dipstick	1
28	369139	Tube (Dipstick)	1
29	1347918	Cover	1
30	326359	Gasket	1
31	1374108	Screw	10
32	375587	Fitting (Oil Filter)	1
33	1320000	Oil Filter	1
34	1358156	Bypass Valve	1
35	1358079	Plug	1
36	288394	Sealant	AR
37	326359	Seal	1

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CYLINDER HEAD (FIGURE 20)

GASOLINE & LPG

3KM 1993 SERIES ENGINE



PARTS-SERVICE GRAM	
ITEM	GRAM
1 & 30	A-A-93

CYLINDER HEAD

GASOLINE & LPG

3KM 1993 SERIES ENGINE

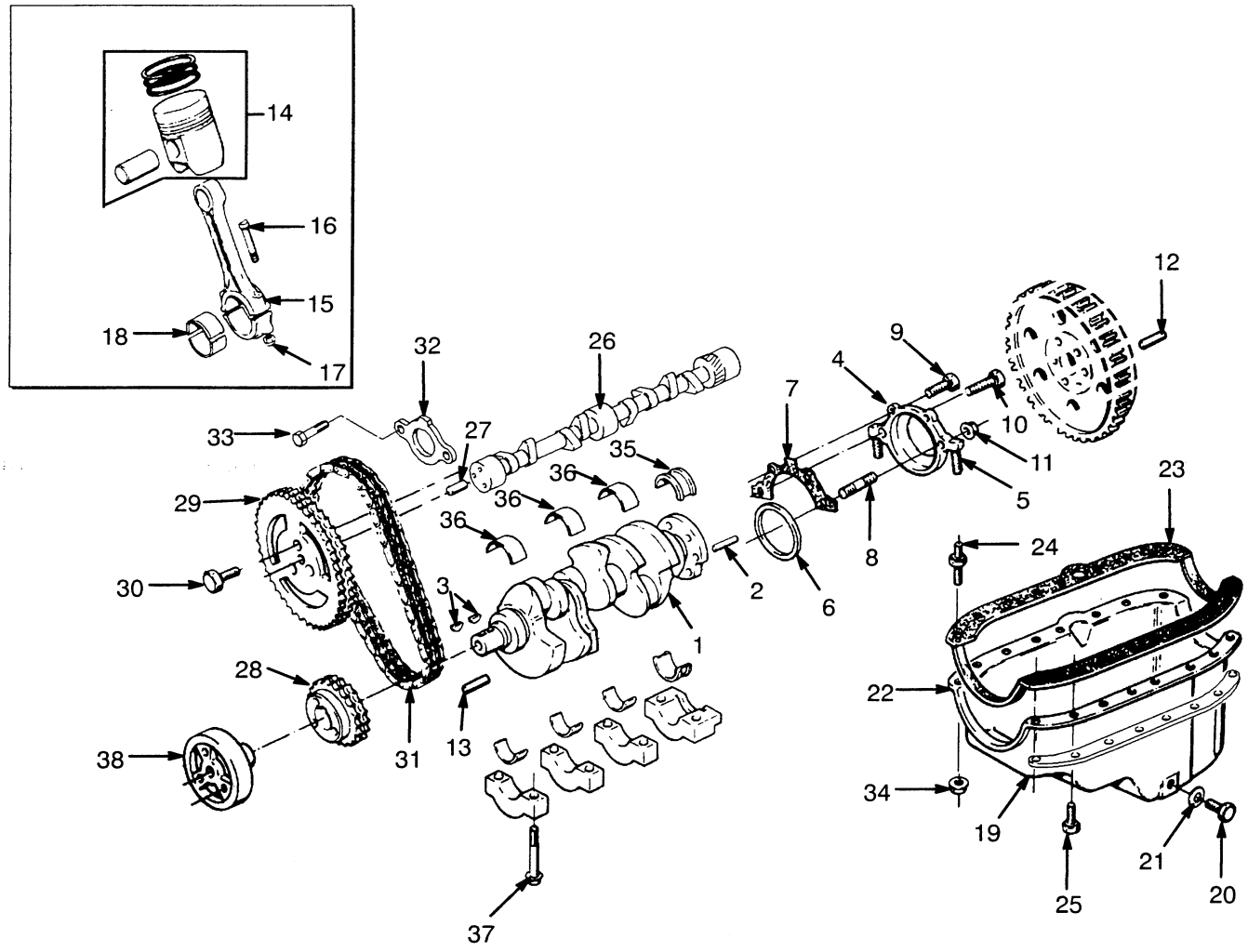
REF	PART NO.	NAME OF PART	QTY
	1356929	Engine	1
1	1454596	Cylinder Head	1
2	375557	Intake Valve (Standard)	6
3	1374105	Exhaust Valve (Standard)	6
4	263748	Spring (Valve)	12
5	263750	Key (Valve)	24
6	375564	Seal (Intake)	6
7	145173	Seal	12
8	314539	Shield (Valve Stem)	12
9	1358677	Stud	12
10	149867	Rotator	6
10	312948	Cap	6
11	1386190	Gasket	2
12	375567	Bolt (3.75 in)	10
13	375568	Bolt (3.00 in)	4
14	263847	Bolt (1.75 in)	12
15	1369481	Cap	1
16	321734	Breather (Valve Assy)	1
17	1339961	Grommet	2
18	1317472	Manifold (Exhaust)	2
19	16379	Capscrew	11
20	352903	Stud	6
21	1316494	Shield	2
22	1316488	Shield (Spark Plug)	2
23	352952	Heat Shield	1
24	1369485	Cover	1
25	1304392	Washer	12
26	1334422	Cover, RH	1
26	375617	Cover, LH	1
27	1358047	Screw	12
28	375620	Gasket (Valve Cover)	2
29	1331341	Plug	5
30	1307964	Rocker Arm	12
31	1358043	Nut (Rocker Arm)	12
32	388356	Push Rod	12
33	1343902	Lifter	12
34	1374115	Guide	6
35	1371233	Bolt	4
36	366686	Lock	6
37	1337872	Hose (Breather)	1
38	1350036	Filter	1
39	1300152	Washer	1
40	14761	Nut	1
41	186998	Bracket	1
42	292501	Capscrew	2
43	320156	Washer	2
44	292680	Washer	2
45	379400	Fitting	1
46	379405	Clamp	1
47	353199	Clamp	1
48	136687	Nut	2
49	15162	Washer	1
50	197888	Spark Plug	6

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CAMSHAFT AND CRANKSHAFT (FIGURE 21)

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3KM 1993 SERIES ENGINE



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CAMSHAFT AND CRANKSHAFT

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3KM 1993 SERIES ENGINE

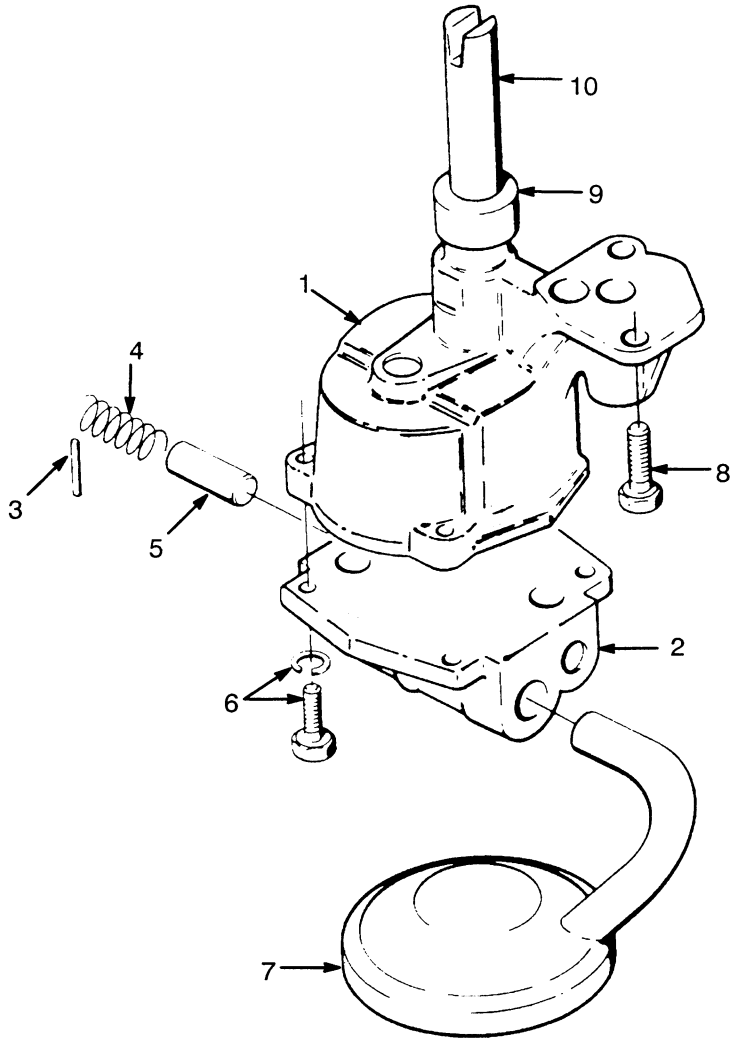
REF	PART NO.	NAME OF PART	QTY
	1356929	Engine	1
1	375570	Crankshaft	1
2	375571	Pin	1
3	1335057	Key	2
4	1335227	Retainer Assembly	1
5	375574	Stud	2
6	1335228	Seal	1
6	375555	Seal (Optional)	1
7	1335212	Gasket	1
8	388364	Stud	1
9	375575	Bolt	2
10	375602	Bolt	1
11	1335226	Nut	2
12	375601	Pin	1
13	1338222	Pin	1
14	1362121	Kit-Piston (Standard)	1
14	1362122	Piston Ring Set	1
14	1374309	Piston	1
14	1380307	Kit-Piston (0.030 in O/S)	1
14	1362123	Piston Ring Set	1
14	1339970	Piston	1
14	1362120	Kit-Piston (Hi-Limit)	1
14	1362122	Piston Ring Set	1
14	1374123	Piston (Hi-Limit)	1
15	1360179	Connecting Rod	1
16	1360182	Screw	2
17	221708	Nut	2
18	375579	Bearing (Standard)	1
18	1324011	Bearing (0.010 in O/S)	1
18	1324012	Bearing (0.020 in O/S)	1
18	1324013	Bearing (0.030 in O/S)	1
18	1324014	Bearing (0.040 in O/S)	1
19	1306676	Oil Sump	1
20	308624	Screw	1
21	388305	Gasket	1
22	1339972	Oil Pan, RH (Reinforced)	1
22	1339971	Oil Pan,LH, (Reinforced)	1
23	375582	Gasket	1
24	375574	Stud	2
25	16378	Capscrew	16
26	1374114	Camshaft	1
27	263844	Pin	1
28	375615	Sprocket	1
29	1339974	Sprocket	1
30	221453	Capscrew	3
31	375616	Chain (Timing)	1
32	1335064	Retainer	1
33	1339963	Bolt	2
35	375551	Bearing (Standard)	1
36	1324015	Bearing (0.010 in O/S)	1
36	1324016	Bearing (0.020 in O/S)	1
36	1324017	Bearing (0.030 in O/S)	1
36	1324018	Bearing (0.040 in O/S)	1
37	263842	Bolt	8
38	1339967	Damper	1
34	375584	Nut	2

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OIL PUMP (FIGURE 22)

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3KM 1993 SERIES ENGINE



REF	PART NO.	NAME OF PART	QTY
1	1304785	Oil Pump	1
2	1306678	Cover	1
3	149845	Pin	1
4	388352	Spring	1
5	268573	Regulator Valve	1
6	16709	Screw	4
6	15154	Lockwasher	4
7	375585	Screen	1
8	388306	Bolt	1
9	263795	Retainer	1
10	263794	Shaft	1

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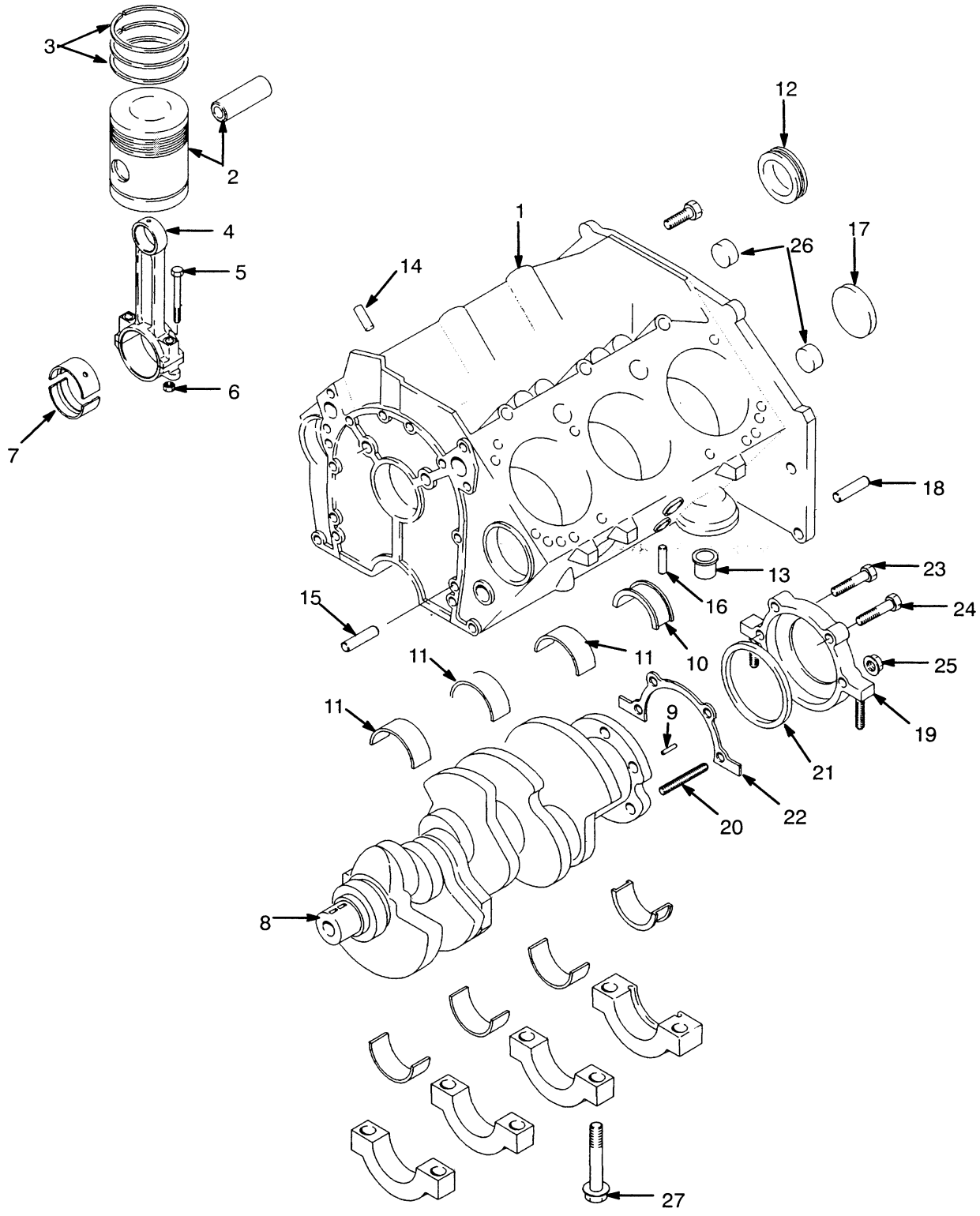
NOTES

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CYLINDER BLOCK (FIGURE 23)

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4LM 1994 SERIES ENGINE



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CYLINDER BLOCK

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REF		PART NO.	NAME OF PART	QTY
		1369493	Engine	1
		1374249	Cylinder Block	1
1		....	Cylinder Block	1
2		1374309	Piston (Standard)	6
2	a	1374310	Piston (Hi-Limit)	6
3		1374308	Piston Ring (Standard)	1
3	a	1374311	Piston Ring (0.030 in O/S)	1
4		1360179	Connecting Rod	6
5		1360182	Screw	2
6		1375954	Nut	2
7		375579	Kit-Bearing (Standard)	6
7	a	1324011	Bearing (0.010 in O/S)	6
7	a	1324012	Bearing (0.020 in O/S)	6
7	a	1324013	Bearing (0.030 in O/S)	6
7	a	1324014	Bearing (0.040 in O/S)	6
8		375570	Crankshaft	1
9		375571	Pin	1
10		375551	Bearing (Standard)	1
11	a	1324015	Bearing (0.010 in O/S)	1
11	a	1324016	Bearing (0.020 in O/S)	1
11	a	1324017	Bearing (0.030 in O/S)	1
11	a	1324018	Bearing (0.040 in O/S)	1
12		1374314	Bearing (Shaft)	1
13		1358156	Bypass Valve	1
14		159977	Pin	2
15		263844	Pin	1
16		375601	Pin	1
17		1374313	Plug	1
18		1335499	Pin	1
19		1335227	Retainer Assembly	1
20		388364	Stud	2
21		1335228	Seal	1
22		1335212	Gasket	1
23		375575	Bolt	1
24		375602	Bolt	1
25		388313	Nut	1
26		274232	Plug	2
27		263842	Bolt	8

a Optional

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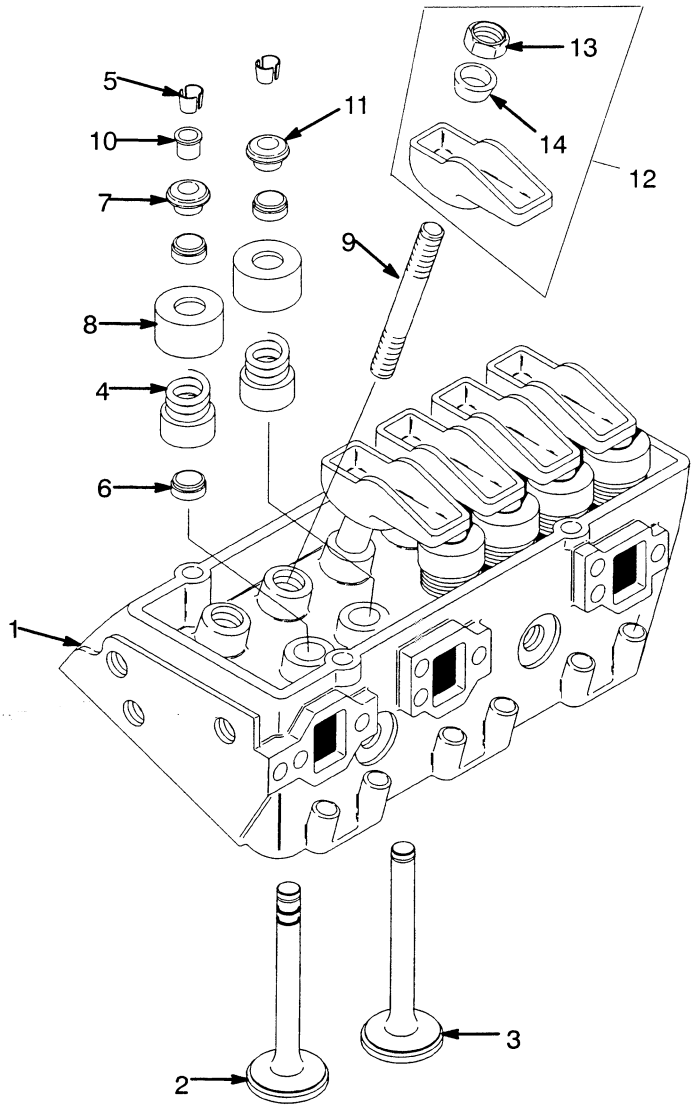
NOTES

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CYLINDER HEAD (FIGURE 24)

GASOLINE & LPG

4LM 1994 SERIES ENGINE



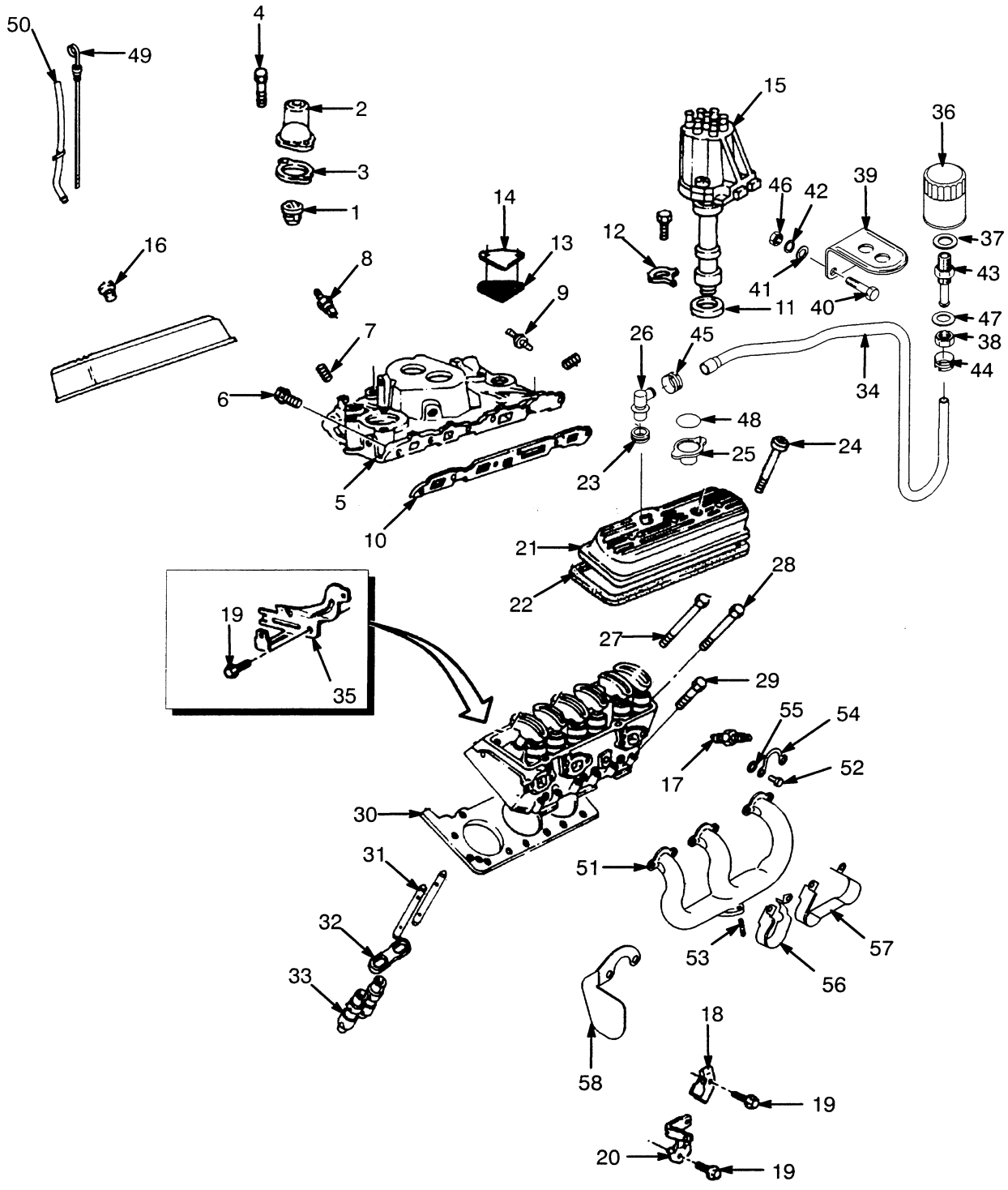
REF	PART NO.	NAME OF PART	QTY
	1369493	Engine	1
1	1374258	Cylinder Head	2
2	1374286	Intake Valve (Standard)	6
3	1374105	Exhaust Valve (Standard)	6
3	1374287	Exhaust Valve (0.015 in O/S)	6
4	263748	Spring	12
5	263750	Key	24
6	375564	Seal	12
7	145173	Seal	12
8	314539	Shield	12
9	1358677	Stud	12
10	149867	Rotator	12
11	312948	Cap	12
12	1367478	Kit-Rocker Arm	1
13	1358043	Nut	1
14	....	Ball	1

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VALVE COVER AND INTAKE MANIFOLD (FIGURE 25)

GASOLINE & LPG

4LM 1994 SERIES ENGINE



VALVE COVER AND INTAKE MANIFOLD

GASOLINE & LPG

4LM 1994 SERIES ENGINE

REF		PART NO.	NAME OF PART	QTY
		1369493	Engine	1
1		1374109	Thermostat (180° F)	1
2		1371229	Water Outlet	1
3		1374110	Seal	1
4		375597	Bolt	10
5		1374111	Manifold (Intake)	1
6		388308	Bolt	1
7		1335241	Plug	1
8		1314381	Coolant Sensor	1
9		375598	Stud	2
10		1376889	Kit-Gasket (Intake Manifold)	1
11		1334423	Gasket	1
12		1335497	Clamp	1
13		1374113	Gasket (EGR Valve)	1
14		1374112	Cover (EGR Valve)	1
15		....	Distributor Assy	1
			☞ Figure 97	
16		1374288	Grommet	2
17	a	1375925	Spark Plug	6
18		1327907	Support	1
19		370169	Screw & Lockwasher	3
20		1374324	Support	1
21		1374291	Cover, RH	1
21		1374292	Cover, LH	1
22		1374293	Gasket (Valve Cover)	2
23		1374288	Grommet	3
24		1374289	Bolt	6
25		1374290	Cap	1
26		321734	PCV Valve	1
27		375567	Bolt (3.75 in)	10
28		375568	Bolt (3.00 in)	4
29		263847	Bolt (1.75 in)	12
30		1386190	Gasket (Cylinder Head)	2
31		388356	Push Rod	12
32		1374115	Guide	6
33		1343902	Lifter	12
34		379403	Hose	1
35		298132	Clamp	1
36		1350036	Filter	1
37		1300152	Washer	1
38		14761	Nut	1
39		186998	Bracket	1
40		292501	Capscrew	1
41		320156	Washer	1
42		292680	Washer	1
43		379400	Fitting	1
44		379405	Clamp	1
45		353199	Clamp	1
46		136687	Nut	1
47		15162	Washer	1
48		1369485	Cover	1
49		388514	Dipstick	1
50		369139	Tube (Dipstick)	1
51		1380802	Manifold (Exhaust)	2
52		16379	Capscrew	11
53		352903	Stud	6
54		366686	Lock-Bolt	6
55		1304392	Washer	12
56		1316494	Shield	2
57		1316488	Shield (Spark Plug)	2
58		352952	Heat Shield	1

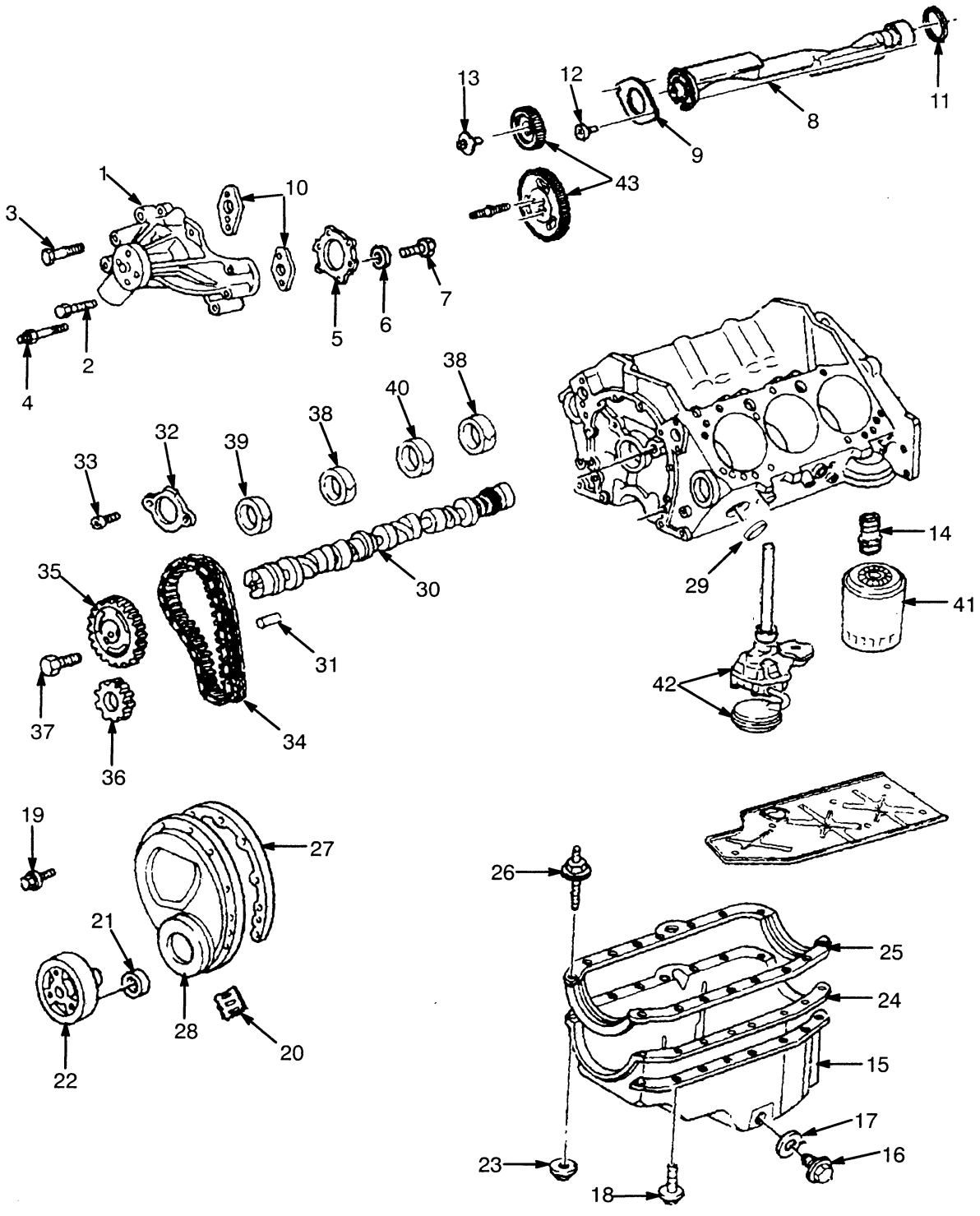
a Included in Major Tune-Up Kits 996337 & 996340

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CAMSHAFT AND OIL PAN (FIGURE 26)

GASOLINE & LPG

4LM 1994 SERIES ENGINE



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CAMSHAFT AND OIL PAN

GASOLINE & LPG

4LM 1994 SERIES ENGINE

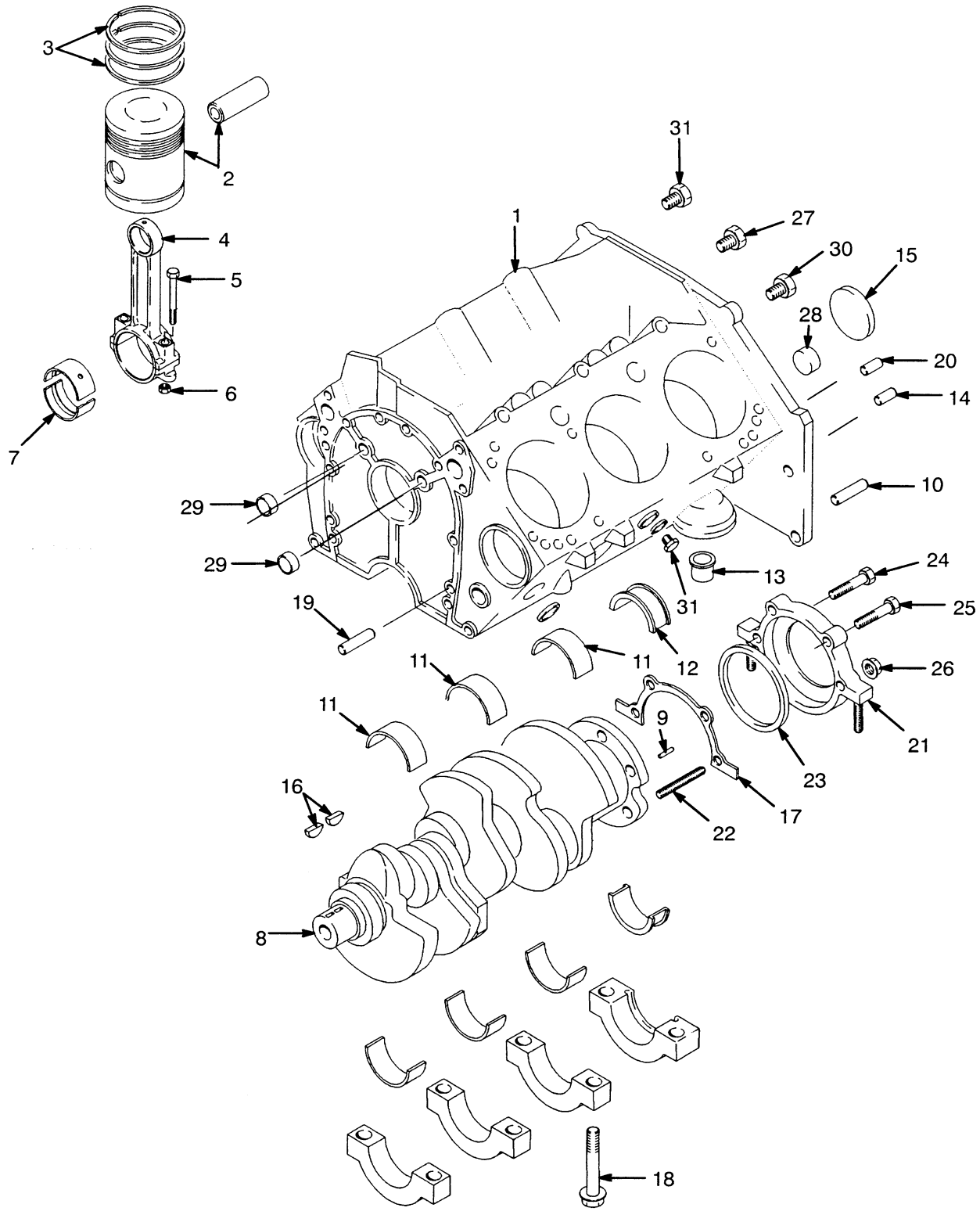
REF	PART NO.	NAME OF PART	QTY
	1369493	Engine	1
1	381355	Water Pump	1
2	1335240	Bolt	2
3	1374307	Bolt	2
4	263827	Stud	1
5	1374306	Gasket (Water Pump)	1
6	369748	Washer	1
7	133469	Capscrew	5
8	1374312	Shaft	1
9	1374326	Retainer	1
10	263828	Gasket	2
11	1374313	Plug	1
12	1339963	Bolt	2
13	1374317	Bolt	1
14	375587	Fitting (Oil Filter)	1
15	1306676	Oil Sump	1
16	308624	Screw	1
17	388305	Gasket	1
18	1376876	Bolt	16
19	1374108	Bolt	10
20	375589	Indicator	1
21	326359	Seal	1
22	1374304	Balancer	1
23	375584	Nut	4
24	1339972	Reinforced Oil Sump, RH	1
24	1339971	Reinforced Oil Sump, LH	1
25	375582	Gasket	1
26	375574	Stud	2
27	1374302	Gasket	1
28	1374303	Cover	1
29	159971	Plug	8
30	1374296	Camshaft	1
31	1374297	Pin	2
32	1374298	Retainer	1
33	1374299	Bolt	2
34	375616	Chain	1
35	1374300	Sprocket	1
36	375615	Sprocket	1
37	1374301	Bolt	1
38	301955	Bearing (Camshaft)	2
39	301956	Bearing (Camshaft)	1
40	301957	Bearing (Camshaft)	1
41	1320000	Oil Filter	1
42	....	Oil Pump	1
		☞ Figure 39	
43	1374315	Kit-Gear (Balancer)	1

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CYLINDER BLOCK (FIGURE 27)

GASOLINE & LPG

5LM 1995 SERIES ENGINE



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CYLINDER BLOCK

GASOLINE & LPG

5LM 1995 SERIES ENGINE

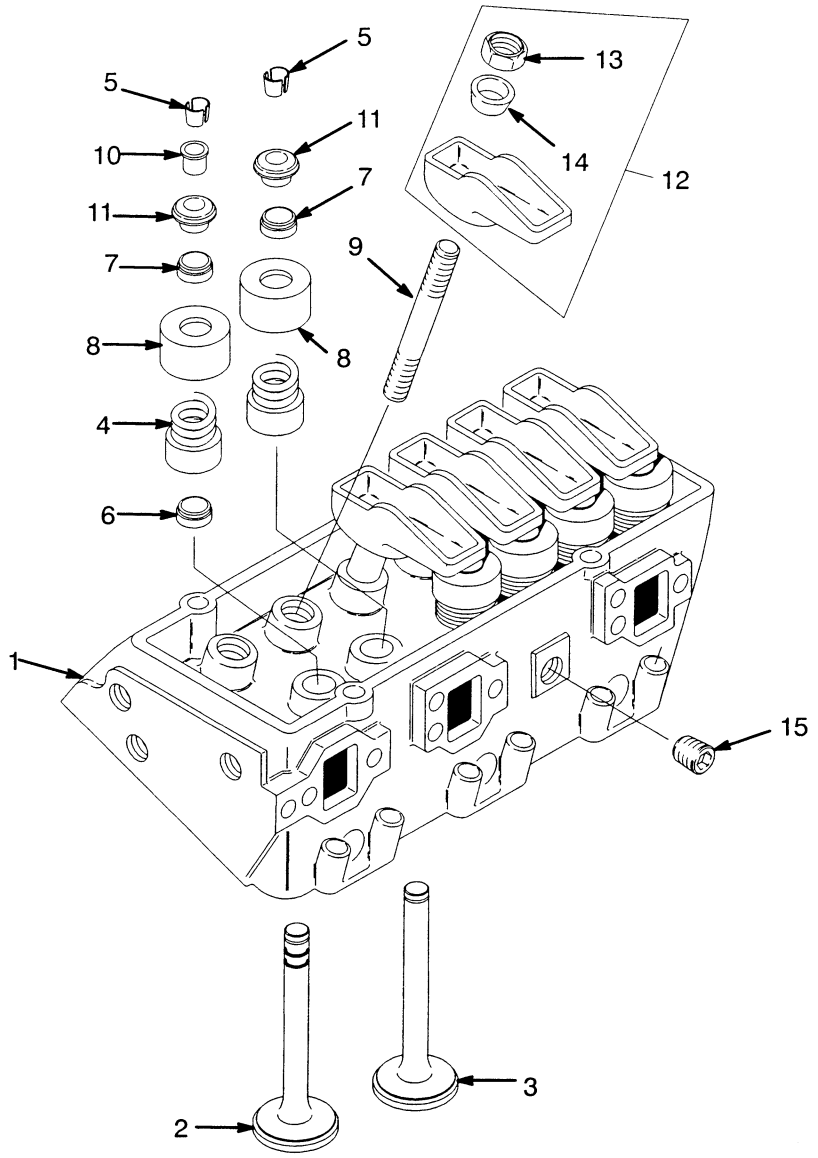
REF	PART NO.	NAME OF PART	QTY
	1377796	Engine	1
	1377785	Short Block Assy	1
1	....	Block Assy	1
2	1374309	Piston Assy (Standard)	6
2	1380307	Piston Assy (0.030 in.)	6
3	1374308	Piston Ring (Standard)	1
3	1374311	Piston Ring (0.030 in.)	1
4	1360179	Connecting Rod	6
5	1360182	Bolt	2
6	1375954	Nut	2
7	375579	Kit-Bearing (Standard)	6
7	1324011	Kit-Bearing (0.010 in.)	6
7	1324012	Kit-Bearing (0.020 in.)	6
7	1324013	Kit-Bearing (0.030 in.)	6
7	1324014	Kit-Bearing (0.040 in.)	6
8	1377106	Crankshaft	1
9	375571	Pin	1
10	1335499	Pin	2
11	375551	Crankshaft Bearing Set (Standard)	1
11	1324015	Crankshaft Bearing Set (0.010 in.)	1
11	1324016	Crankshaft Bearing Set (0.020 in.)	1
11	1324017	Crankshaft Bearing Set (0.030 in.)	1
11	1324018	Crankshaft Bearing Set (0.040 in.)	1
12	1307958	Crankshaft Bearing Set (Rear, Standard)	1
13	1358156	Oil By-Pass Valve	1
14	159977	Pin	4
15	1374313	Plug	1
16	1335057	Key	2
17	1335212	Gasket	1
18	263842	Bolt	8
19	263844	Pin	2
20	375601	Pin	1
21	1335227	Retainer Assembly	1
22	388364	Stud	2
23	1335228	Seal	1
24	375575	Bolt	1
25	375602	Bolt	1
26	1335226	Nut	1
27	274232	Plug, RH (1/4 NPT)	1
27	1331341	Plug, LH (3/8 NPT)	1
28	159971	Plug	8
29	1358079	Plug, LH	1
29	388302	Plug, RH	1
30	1331341	Plug	1
31	274232	Plug	3

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CYLINDER HEAD (FIGURE 28)

GASOLINE & LPG

5LM 1995 SERIES ENGINE



REF		PART NO.	NAME OF PART	QTY
		1377796	Engine	1
1		1374258	Cylinder Head	2
2		375557	Inlet Valve (Standard)	6
3		1374105	Exhaust Valve (Standard)	6
4		263748	Spring	12
5		263750	Key	24
6	a	1389977	Seal	6
7	a	145173	Valve Seal	12
8		314539	Shield	12

REF	PART NO.	NAME OF PART	QTY
9	1358677	Stud	12
10	149867	Rotator Assy	12
11	312948	Cap	12
12	1367478	Kit-Rocker Arm	1
13	1358043	Nut	12
14	....	Ball	12
15	388359	Plug	1

a Included In Top Gasket Kit 1383905

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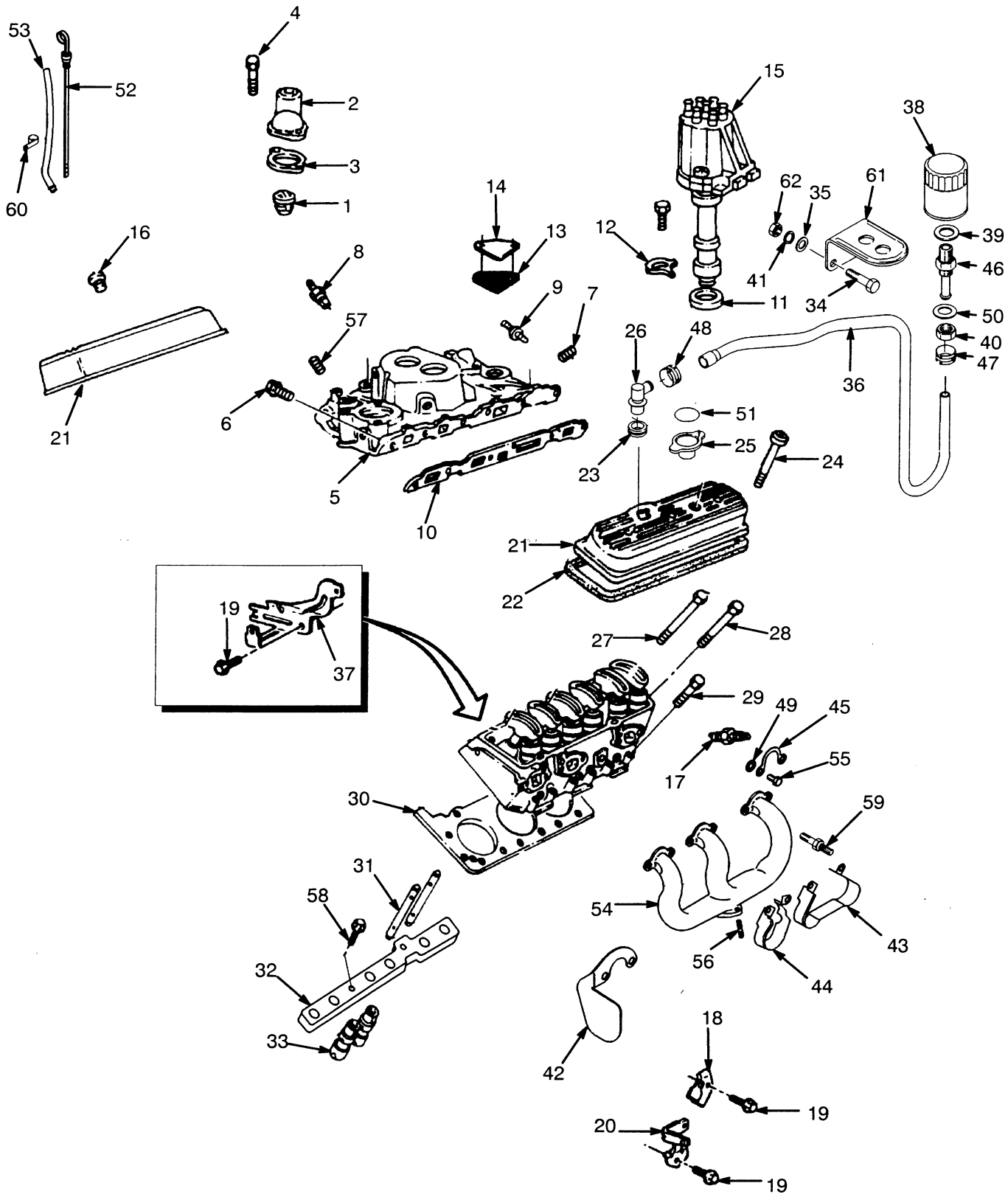
NOTES

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VALVE COVERS & INLET MANIFOLD (FIGURE 29)

GASOLINE & LPG

5LM 1995 SERIES ENGINE



VALVE COVERS & INLET MANIFOLD

GASOLINE & LPG

5LM 1995 SERIES ENGINE

REF		PART NO.	NAME OF PART	QTY
		1377796	Engine	1
1		1374109	Thermostat	1
2		1371229	Water Outlet	1
3	a	1374110	Gasket	1
4		375597	Bolt	2
5		1374111	Inlet Manifold	1
6		388308	Bolt	1
7		388359	Plug	1
8		1314381	Coolant Sensor	1
9		375598	Stud	4
10	a	1389976	Gasket (Inlet Manifold)	2
11	a	1334423	Gasket (Ignition Timer)	1
12		1335497	Clamp	1
13		1374113	Gasket (EGR Valve)	1
14		1374112	Cover (EGR Valve)	1
15		....	Distributor Assy ☞ Figure 96	1
16		1383904	Grommet	6
17	b	1375925	Spark Plug	6
18		1327907	Support	1
19		370169	Screw & Lockwasher	3
20		1374324	Support	1
21		1374291	Cover, LH	1
21		1374292	Cover, RH	1
22	a	1374293	Gasket (Valve Cover)	2
23		1374288	Grommet	3
24		1374289	Bolt	6
25		1374290	Cap	1
26		321734	PCV Valve	1
27		1377792	Bolt (3.75 in.)	10
28		1377793	Bolt (3.15 in.)	4
29		1377794	Bolt (1.75 in.)	12
30	a	1386190	Gasket (Cylinder Head)	2
31		388356	Push Rod	12
32		1374115	Guide	2
33		1343902	Lifter	12
34		136749	Capscrew	2
35		320157	Washer	2
36		1337871	Hose	1
37		1374324	Retainer	1
38		1350036	Breather	1
39		1300152	Washer	1
40		14761	Nut	1
41		292681	Lockwasher	2
42		352952	Heat Shield	1
43		1316488	Shield (Spark Plug)	2
44		1316494	Shield	2
45		366686	Lock (Exhaust Manifold Bolt)	6
46		379400	Fitting	1
47		379405	Clamp	1
48		353199	Clamp	1
49		1304392	Washer	12
50		15162	Washer	1
51		1369485	Cover	1
52		388514	Dipstick	1
53		369139	Tube (Dipstick)	1
53		288394	Sealant	AR
54		1380802	Manifold (Exhaust)	2
55		16379	Capscrew	11
56		352903	Stud	6
57		1335241	Plug	1
58		1371233	Bolt	4
59		1378932	Stud	1
60		133696	Clamp	1
61		186998	Bracket	1
62		239503	Nut	2

a Included In Top Gasket Kit 1383905

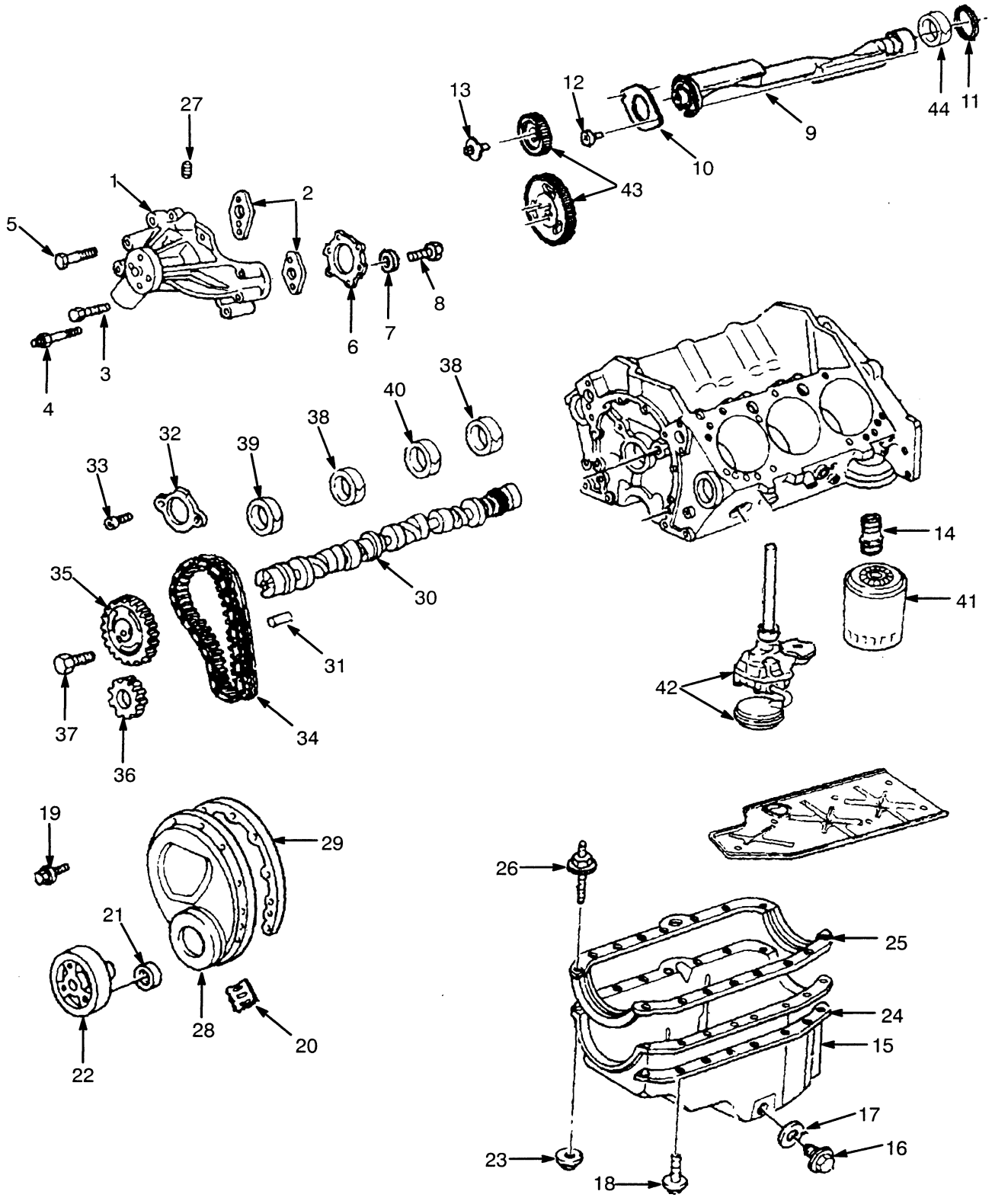
b Included in Major Tune-Up Kits 996337 & 996340

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CAMSHAFT & OIL PAN (FIGURE 30)

GASOLINE & LPG

5LM 1995 SERIES ENGINE



CAMSHAFT & OIL PAN

GASOLINE & LPG

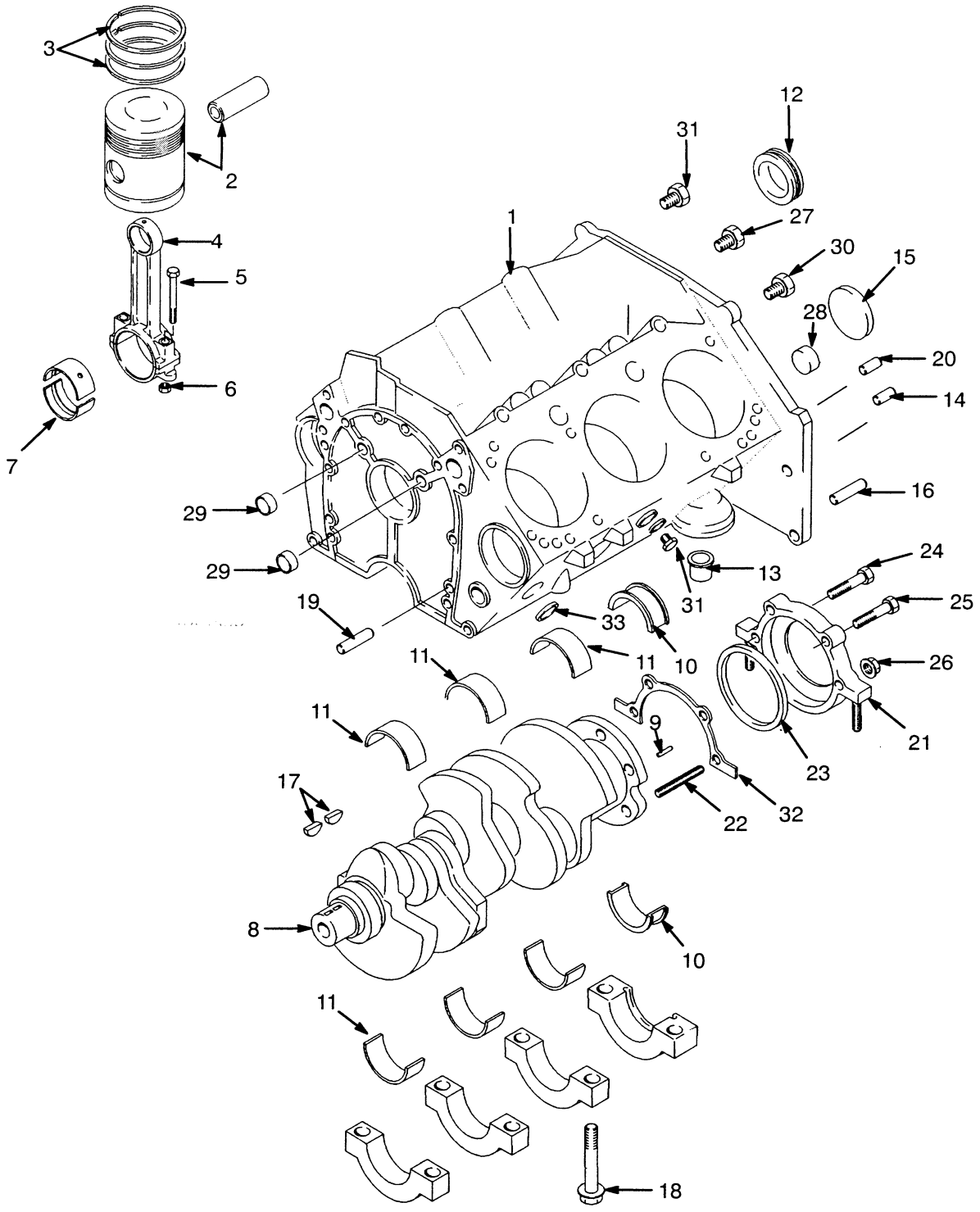
5LM 1995 SERIES ENGINE

REF	PART NO.	NAME OF PART	QTY
	1377796	Engine	1
1	1377786	Water Pump	1
2	263828	Gasket	2
3	1374307	Bolt	2
4	263827	Stud	2
5	1335240	Bolt	1
6	1335494	Gasket (Water Pump)	1
7	369748	Washer	1
8	370169	Capscrew	5
9	1374312	Shaft (Balancer)	1
10	1374326	Retainer	1
11	1374313	Plug	1
12	1339963	Bolt	2
13	1374317	Bolt	1
14	375587	Fitting (Oil Filter)	1
15	1306676	Oil Pan Assy	1
16	308624	Screw	1
17	388305	Gasket	1
18	1376876	Bolt	16
19	1377103	Bolt	10
20	375589	Pointer	1
21	1377104	Seal	1
22	1358085	Balancer	1
23	1360178	Nut	4
24	1339972	Reinforcement, RH	1
24	1339971	Reinforcement, LH	1
25	375582	Oil Pan Gasket	1
26	388364	Stud	2
27	15303	Plug	1
28	1377787	Cover	1
29	....	Gasket	1
30	1374296	Camshaft	1
31	1374297	Pin	2
32	1374298	Retainer	1
33	1374299	Bolt	2
34	375616	Chain	1
35	1374300	Sprocket	1
36	375615	Sprocket	1
37	1374301	Bolt	1
38	301955	Bearing (Camshaft)	2
39	301956	Bearing (Camshaft)	1
40	301957	Bearing (Camshaft)	1
41	1320000	Oil Filter	1
42	....	Oil Pump Assy	1
		☞ Figure 39	
43	1374315	Kit-Gear (Balancer)	1
44	1374314	Bearing	1

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CYLINDER BLOCK (FIGURE 31)

GASOLINE AND LPG



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CYLINDER BLOCK

GASOLINE AND LPG

Key
A: 6LX 1996 Series Engine
B: 7LX 1997 And 8LX 1998 Series Engine
C: 9LX 1999 Series Engine

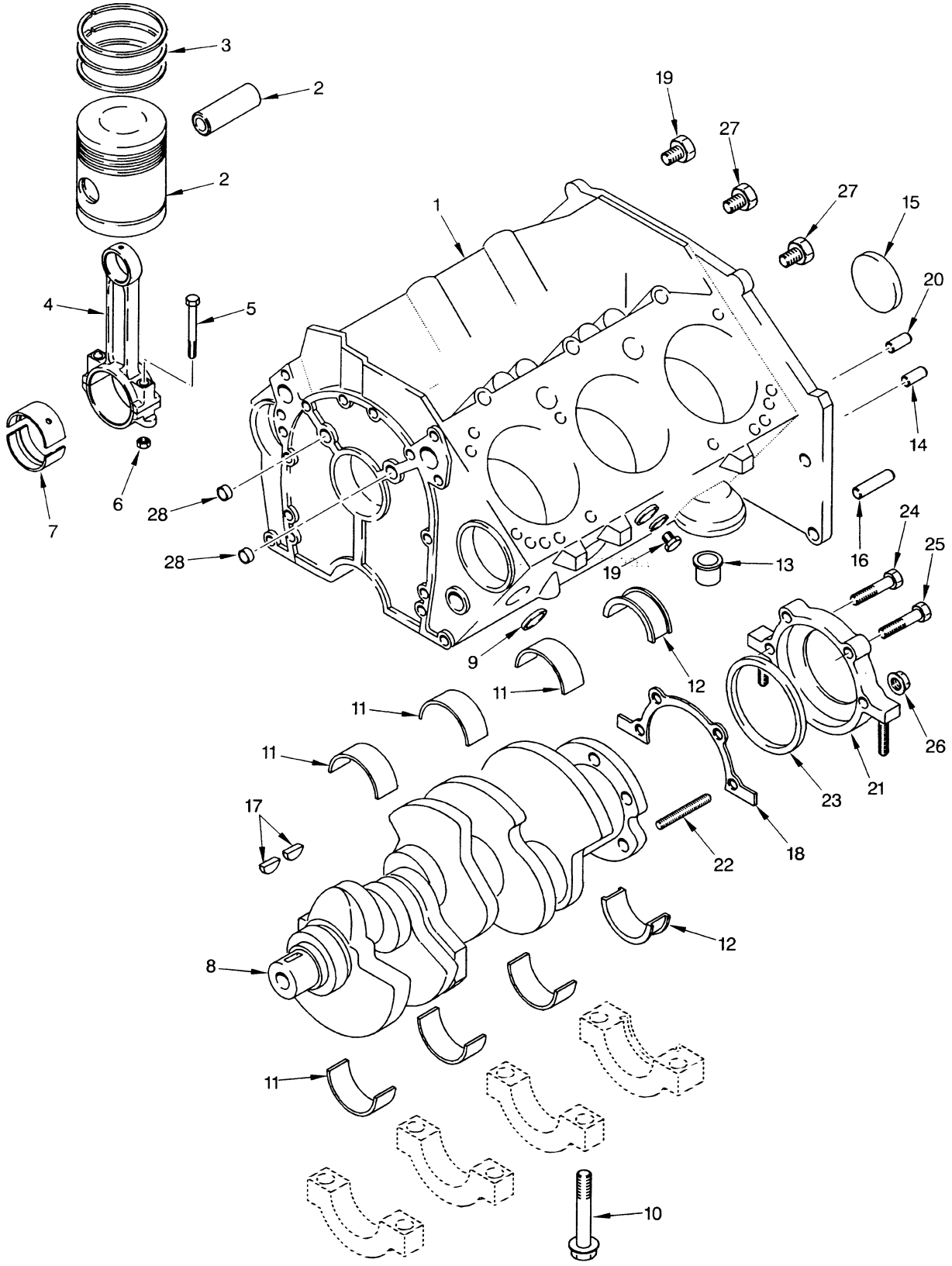
Ref	Part No.	Name Of Part	Qty A	Qty B	Qty C
	1380300	Engine (6LX)	1	..	..
	1393582	Engine (7LX)	..	1	..
	1453581	Engine (8LX)	..	1	..
	1459646	Engine (9LX)	..	..	1
1	1389099	Short (Block Assy)	1	1	..
1	1460385	Short (Block Assy)	..	..	1
2	1390759	Kit-Piston and Pin (Standard)	6	6	6
2	1390760	Kit-Piston and Pin (0,5 mm)	6	6	6
3	1390761	Kit-Piston Ring (Standard)	6	6	6
3	1390765	Kit-Piston Ring (0,5 mm)	6	6	6
4	1360179	Connecting Rod	6	6	6
5	1360182	Bolt	2	2	2
6	1375954	Nut	2	2	2
7	1390770	Kit-Bearing (Standard)	6	6	6
7	375580	Kit-Bearing (0,014 in.)	6	6	6
8	1377106	Crankshaft	1	1	..
8	1460386	Crankshaft	..	..	1
9	375571	Pin	1	1	1
10	1307958	Kit-Crankshaft Bearings (Rear Standard)	1	1	..
10	1390773	Kit-Crankshaft Bearings (Rear 0,001 in.)	1	1	1
10	1390774	Kit-Crankshaft Bearings (Rear 0,002 in.)	1	1	..
10	1309839	Kit-Crankshaft Bearings (Rear 0,010 in.)	1	1	..
11	375551	Kit-Crankshaft Bearings (Standard)	1	1	..
11	1460737	Kit-Crankshaft Bearings (Standard)	..	..	3
11	1390771	Kit-Crankshaft Bearings (0,001 in.)	3	3	..
11	1390772	Kit-Crankshaft Bearings (0,002 in.)	3	3	..
11	263758	Kit-Crankshaft Bearings (0,010 in.)	3	3	..
11	263759	Kit-Crankshaft Bearings (0,020 in.)	3	3	..
11	1460738	Kit-Crankshaft Bearings (0,020 in)	..	..	3
12	1374314	Bearing (Shaft RR)	1	1	1
13	1358156	Oil Bypass Valve	1	1	1
14	159977	Pin	4	4	4
15	1374313	Plug	1	1	1
16	1335499	Pin	2	2	2
17	1335057	Key	2	..	..
17	1451319	Key	..	2	2
18	263842	Bolt	10	10	10
19	263844	Pin	2	..	..
19	1451329	Pin	..	2	..
19	1450941	Pin	..	..	2
20	375601	Pin	1	1	1
21	1335227	Retainer Assy	1	..	..
21	1450554	Retainer Assy	..	1	..
21	1460330	Retainer Assy	..	..	1
22	388364	Stud	2	..	..
22	1450555	Stud	..	2	2
23	1335228	Seal	1	..	..
23	1450556	Seal	..	1	..
23	1460331	Seal	..	..	1
24	375575	Bolt	1	1	1
25	375602	Bolt	1	1	1
26	1335226	Nut	1	1	1
27	274232	Plug, RH (1/4 NPT)	1	1	1
27	1331341	Plug, LH (3/8 NPT)	1	1	1
28	159971	Plug	6	6	6
29	1358079	Plug, LH	1	1	1
29	388302	Plug, RH	1	1	1
30	1331341	Plug	1	1	1
31	274232	Plug	3	3	3
32	1335212	Joint	1	1	1
33	169718	Plug	5	5	5

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CYLINDER BLOCK (FIGURE 32)

GASOLINE AND LPG

2000 SERIES ENGINE



CYLINDER BLOCK

GASOLINE AND LPG

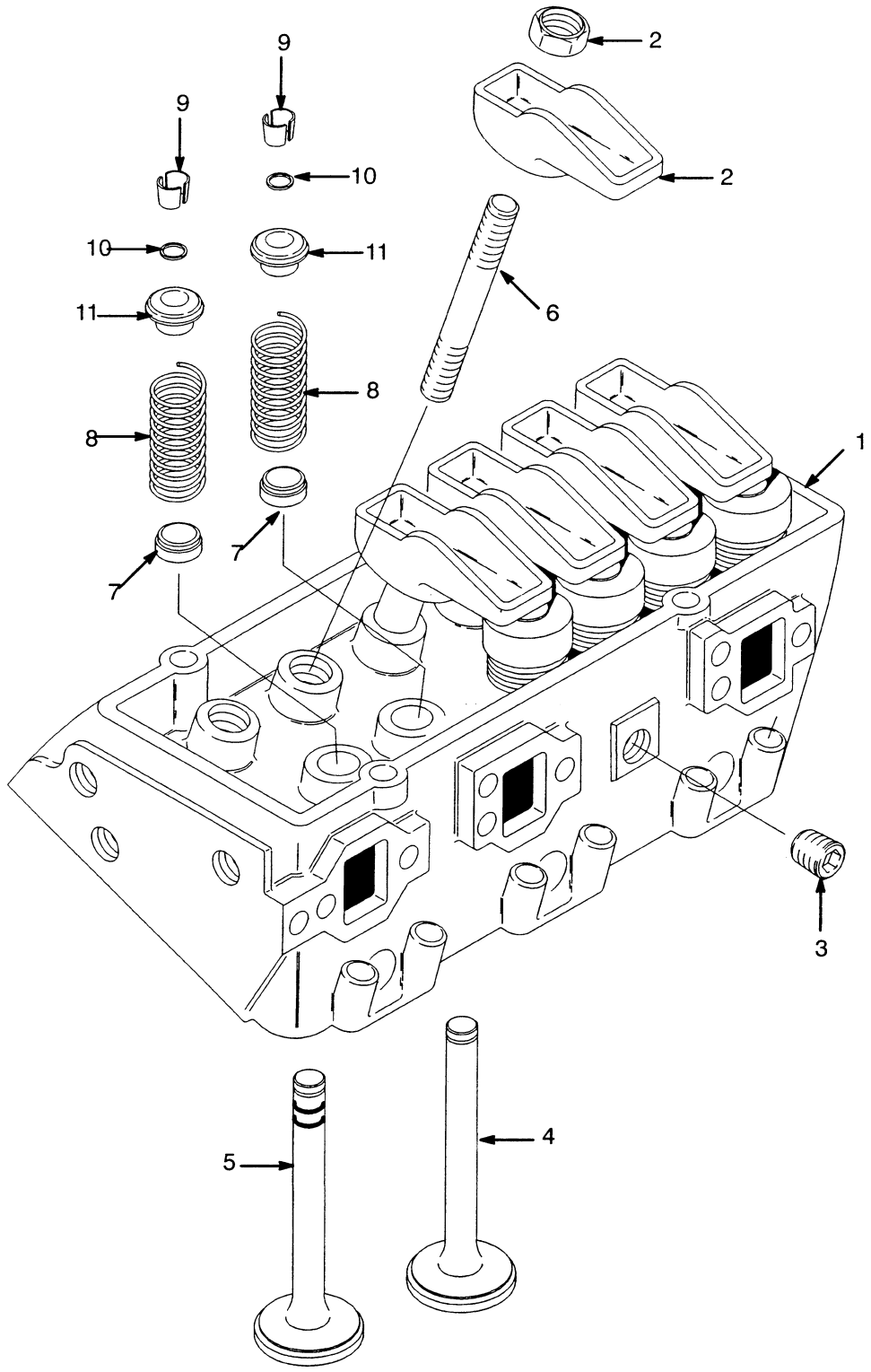
2000 SERIES ENGINE

Ref	Part No.	Name Of Part	Qty
	1467584	Engine	1
1	1460385	Short (Block)	1
2	1390759	Kit-Piston And Pin (Std)	6
2	1390760	Kit-Piston And Pin (0.5 mm)	6
3	1390761	Kit-Piston Ring (Std)	6
3	1390765	Kit-Piston Ring (0.5 mm)	6
4	1360179	Connecting Rod	6
5	1360182	Bolt	2
6	1330450	Nut	2
7	1390770	Kit-Bearing (Std)	6
7	375580	Kit-Bearing (0.014 mm)	6
8	1460386	Crankshaft	1
9	159971	Plug	5
10	263842	Bolt	10
11	1460737	Bearing Set (Crankshaft Std)	3
11	1460738	Bearing Set (Crankshaft 0.020 In)	3
12	1390773	Bearing Set (Crankshaft)	1
13	1358156	Bypass Valve	1
14	159977	Pin	4
15	1374313	Plug	1
16	1335499	Pin	2
17	1451319	Key	1
18	1335212	Gasket	1
19	274232	Plug	5
20	375601	Pin	1
21	1460330	Retainer Assy	1
22	1450555	Stud	2
23	1460331	Seal	1
24	375575	Bolt	2
25	375602	Bolt	1
26	1335226	Nut	1
27	1331341	Plug	3
28	1358079	Plug (LH)	3
28	388302	Plug (RH)	2

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CYLINDER HEAD (FIGURE 33)

GASOLINE AND LPG



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CYLINDER HEAD

GASOLINE AND LPG

Key
A: 6LX 1996 Series Engine
B: 7LX 1997 And 8LX 1998 Series Engine
C: 9LX 1999 Series Engine

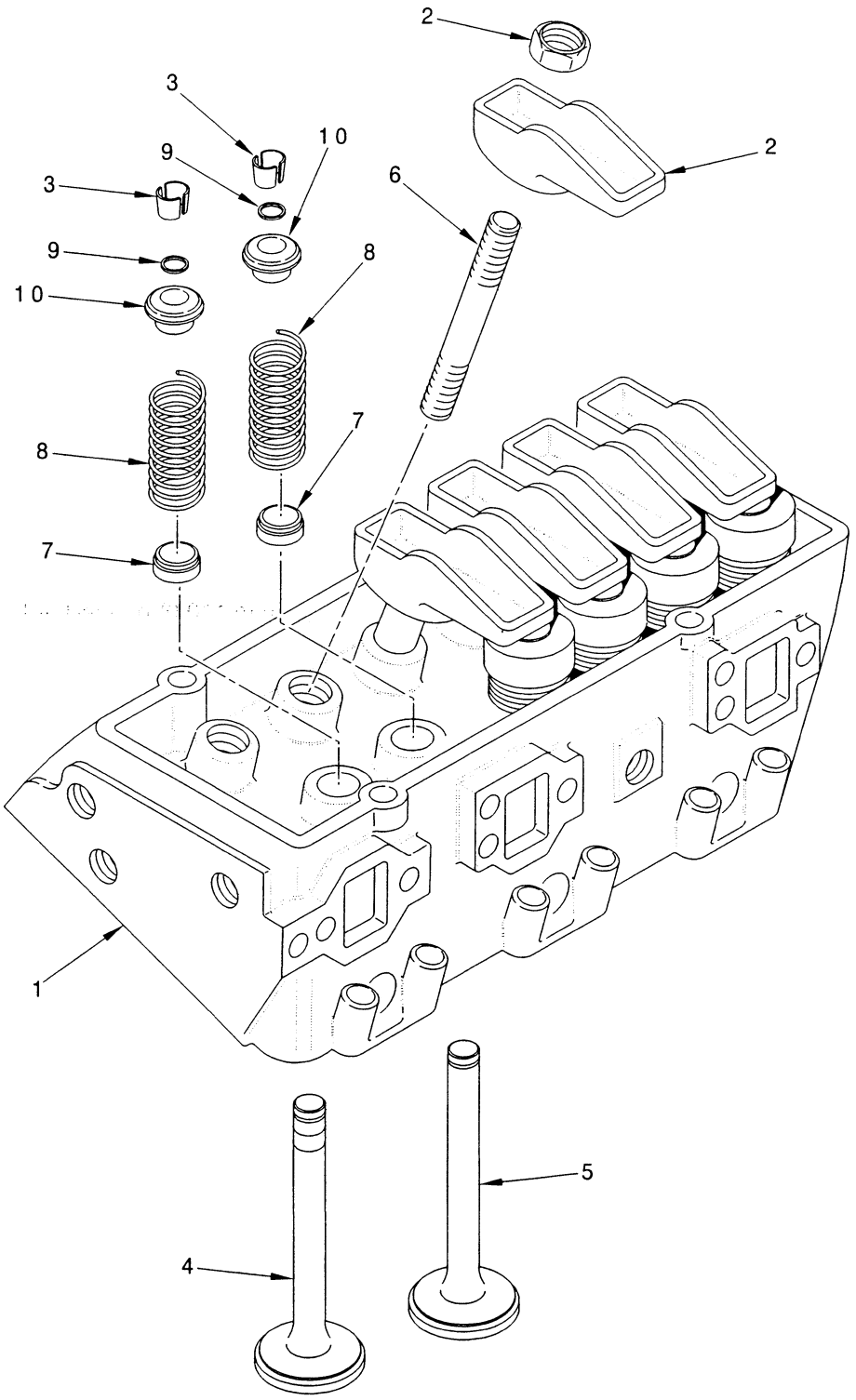
Ref	Part No.	Name Of Part	Qty A	Qty B	Qty C
	1380300	Engine (6LX)	1	..	..
	1393582	Engine (7LX)	..	1	..
	1453581	Engine (8LX)	..	1	..
	1459646	Engine (9LX)	..	..	1
1	1386196	Cylinder Head	2	..	..
1	1451323	Cylinder Head	..	2	2
2	1367478	Kit-Rocker Arm	12	12	12
2	1358043	Nut	1	1	1
3	388359	Plug	1	1	..
4	1386194	Exhaust Valve	6	6	6
5	1386195	Inlet Valve	6	6	6
6	358677	Stud	12	12	12
7	1386197	Seal	12	12	12
8	1386198	Spring	12	12	12
9	1377110	Collet	24	24	24
10	1460384	Seal	..	..	12
11	1393127	Cap	..	..	12

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CYLINDER HEAD (FIGURE 34)

GASOLINE AND LPG

2000 SERIES ENGINE



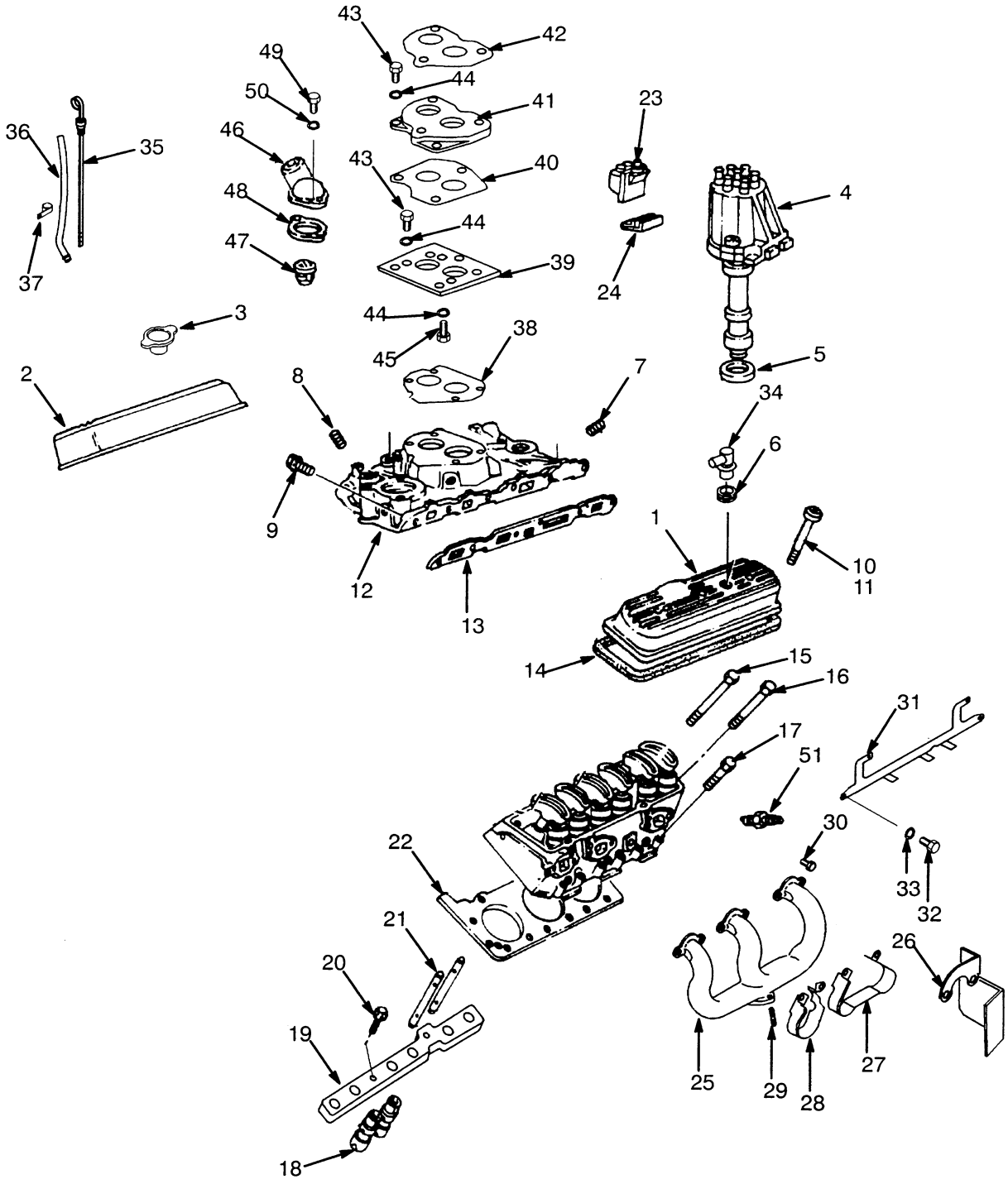
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CYLINDER HEAD
GASOLINE AND LPG
2000 SERIES ENGINE

Ref	Part No.	Name Of Part	Qty
	1467584	Engine	1
1	1471557	Cylinder Head	2
2	1471555	Kit-Rocker Arm	12
2	1358043	Nut	1
3	1377110	Key	24
4	1386194	Exhaust Valve	6
5	1386195	Inlet Valve	6
6	1389051	Bolt	4
7	1386197	Seal	12
8	1386198	Spring	12
9	1460384	Seal	12
10	1393127	Cap	12

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VALVE COVER (FIGURE 35)
AND INLET MANIFOLD
GASOLINE AND LPG



VALVE COVER
AND INLET MANIFOLD
GASOLINE AND LPG

Key
A: 6LX 1996 Series Engine
B: 7LX 1997 And 8LX 1998 Series Engine
C: 9LX 1999 Series Engine

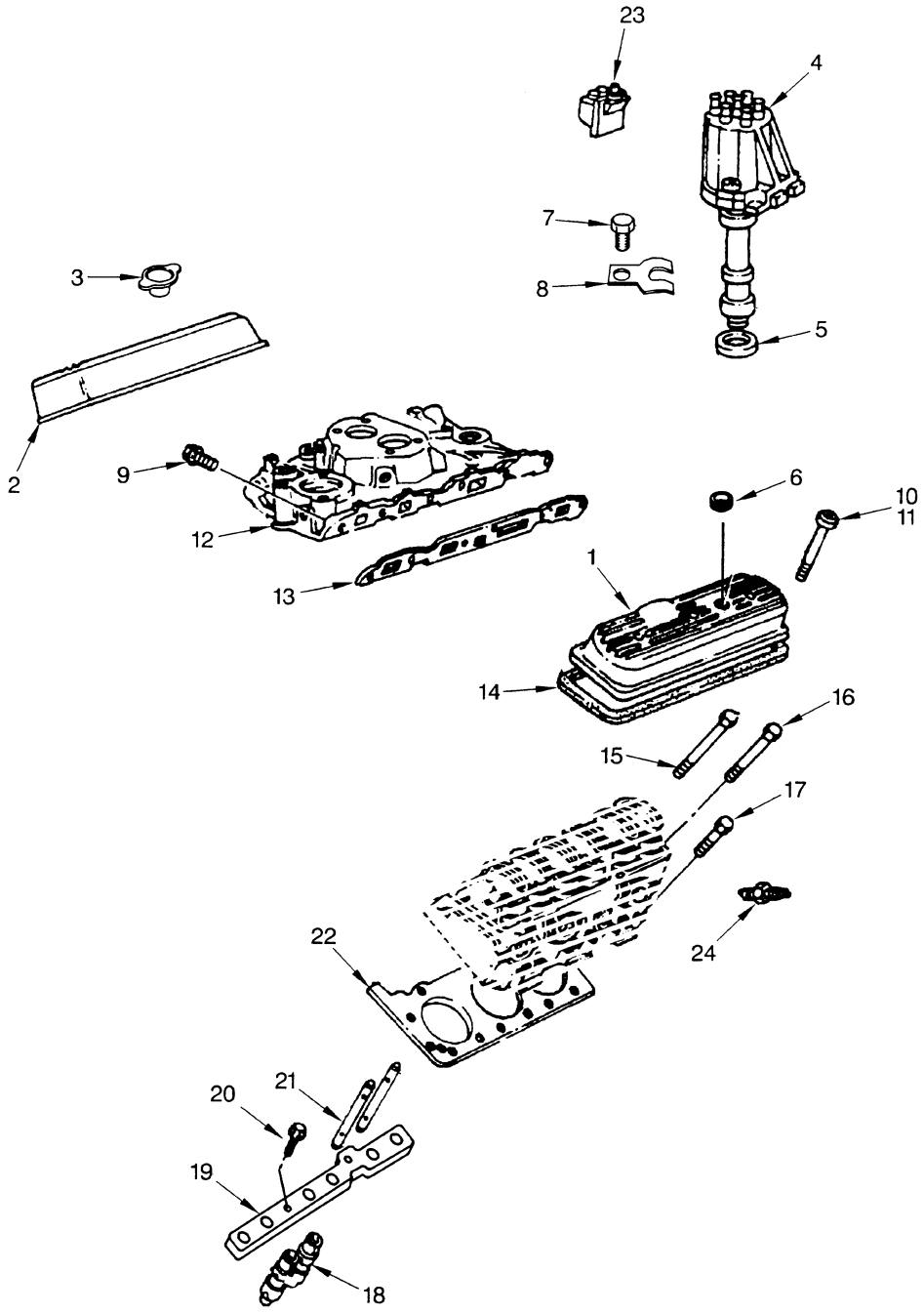
Ref	Part No.	Name Of Part	Qty A	Qty B	Qty C
	1380300	Engine (6LX)	1	..	..
	1393582	Engine (7LX)	..	1	..
	1453581	Engine (8LX)	..	1	..
	1459646	Engine (9LX)	..	..	1
1	1386185	Valve Cover, RH	1	1	1
2	1389102	Valve Cover, LH	1	1	1
3	1374290	Oil Fill Cap	1	1	1
4	....	Distributor	1	1	1
		☞ Figure 97			
5	1334423	Joint	1	1	1
6	1374288	Grommet	3	3	3
7	1331341	Plug Assy	3	3	3
8	1335241	Plug (Water Outlet)	1	1	1
9	1389093	Bolt	8	8	8
10	1383904	Grommet	6	6	6
11	1374289	Bolt	6	6	6
12	1386186	Inlet Manifold	1	1	1
13	1386187	Joint	2	2	2
14	1374293	Joint	2	2	2
15	1377792	Bolt	10	10	10
16	1377792	Bolt	4	4	..
16	1377793	Bolt	..	..	4
17	1377794	Bolt	10	10	10
18	1386188	Valve Lifter	12	12	12
19	1389050	Guide	2	2	2
20	1389051	Bolt	4	4	4
21	1386189	Push Rod	12	12	12
22	1386190	Joint (Cylinder Head)	2	2	2
23	1386191	Ignition Coil	1	1	1
23	1371237	Bolt	2	2	..
24	1389103	Bracket (Upper)	1	1	..
24	1389105	Bracket (Lower)	1	1	1
25	1380802	Exhaust Manifold	2	2	2
26	352952	Heat Shield	1	1	1
27	1316488	Shield (Spark Plug)	2	2	2
28	1316494	Shield (Spark Plug)	2	2	2
29	1384349	Stud	6	6	6
30	1383257	Bolt	12	12	12
31	1383241	Support	2	2	2
32	133469	Hex Head Bolt	4	4	4
33	15154	Washer	4	4	4
34	379407	Fitting	1	1	1
35	388514	Dipstick	1	1	1
36	369139	Tube	1	1	1
37	133696	Clamp	1	1	1
38	1383237	Joint	1	1	1
39	1383211	Plate (Lower)	1	1	1
40	1383213	Joint	1	1	1
41	1383239	Spacer	1	1	1
42	1333806	Joint	1	1	1
43	16836	Hex Head Bolt	7	7	7
44	15155	Washer	10	10	10
45	16394	Screw	1	1	1
46	1371229	Water Outlet	1	1	1
47	231522	Thermostat	1	..	..
47	1450643	Thermostat	..	1	1
48	1330725	Joint	1	1	1
49	16598	Screw	2	2	2
50	15156	Washer	2	2	2
51	1389133	Spark Plug	6	6	6
51	1452376	Spark Plug (Optional)	6	6	6

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VALVE COVER AND INLET MANIFOLD (FIGURE 36)

GASOLINE AND LPG

2000 SERIES ENGINE



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VALVE COVER AND INLET MANIFOLD

GASOLINE AND LPG

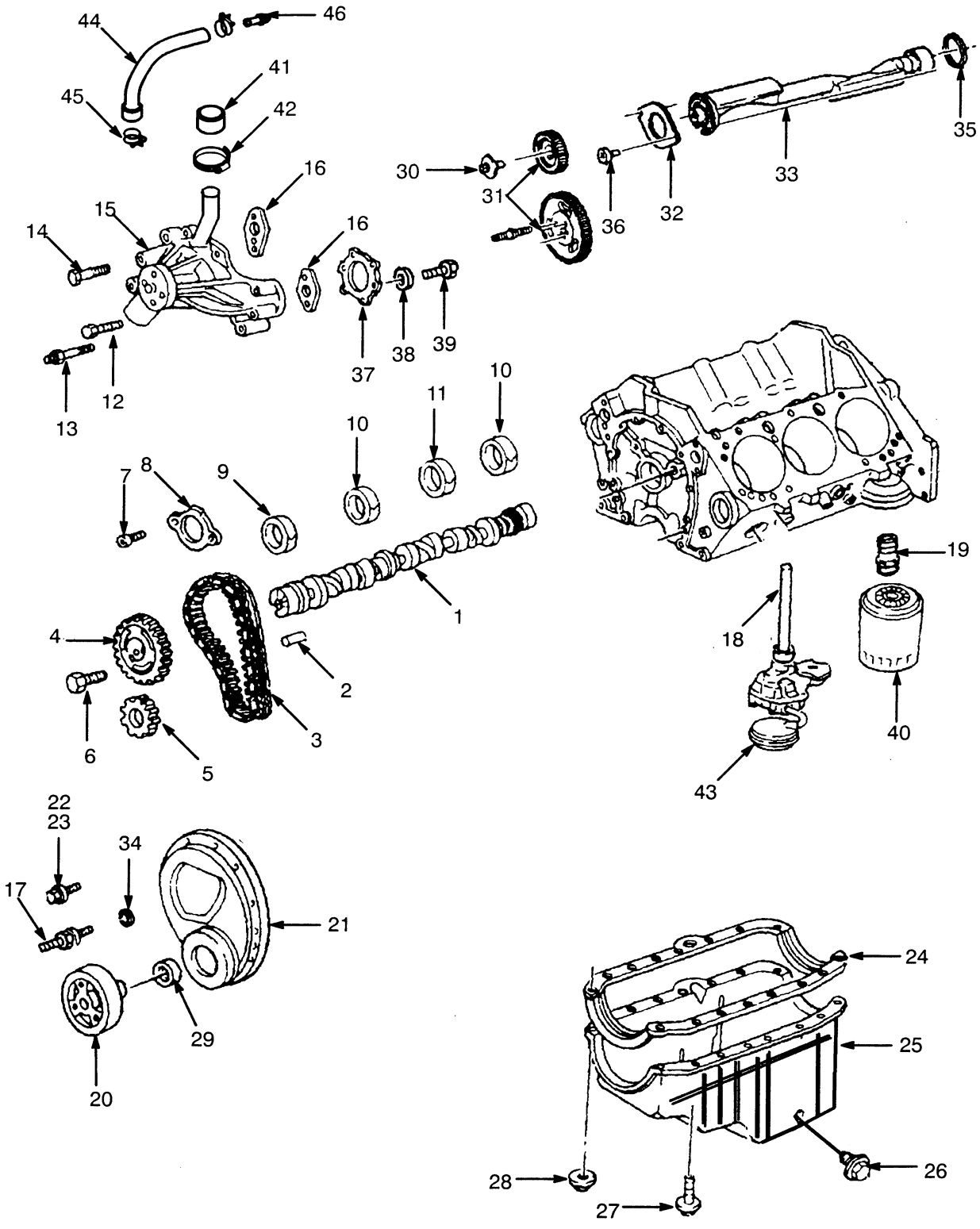
2000 SERIES ENGINE

Ref	Part No.	Name Of Part	Qty
	1467584	Engine	1
1	1386185	Valve Cover (RH)	1
2	1389102	Valve Cover (LH)	1
3	1374290	Cap (Oil)	1
4	....	Distributor Assy ☞ Figure 97	1
5	1334423	Gasket	1
6	1374288	Grommet	3
7	375597	Bolt	1
8	1335497	Clamp	1
9	1389093	Bolt	8
10	1383904	Grommet	6
11	1374289	Bolt	6
12	1386186	Manifold (Inlet)	1
13	1386187	Gasket	2
14	1374293	Gasket	2
15	1377792	Bolt	10
16	1377793	Bolt	4
17	1377794	Bolt	10
18	1471559	Valve Lifter	12
19	1389050	Guide	2
20	1389051	Bolt	4
21	1386189	Push Rod	12
22	1386190	Gasket	2
23	1386191	Ignition Coil	1
24	1389133	Spark Plug	6
24	1452376	Spark Plug (Optional)	6

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CAMSHAFT AND OIL SUMP (FIGURE 37)

GASOLINE AND LPG



CAMSHAFT AND OIL SUMP

GASOLINE AND LPG

Key
A: 6LX 1996 Series Engine
B: 7LX 1997 Series Engine
C: 8LX 1998 Series Engine
D: 9LX 1999 Series Engine

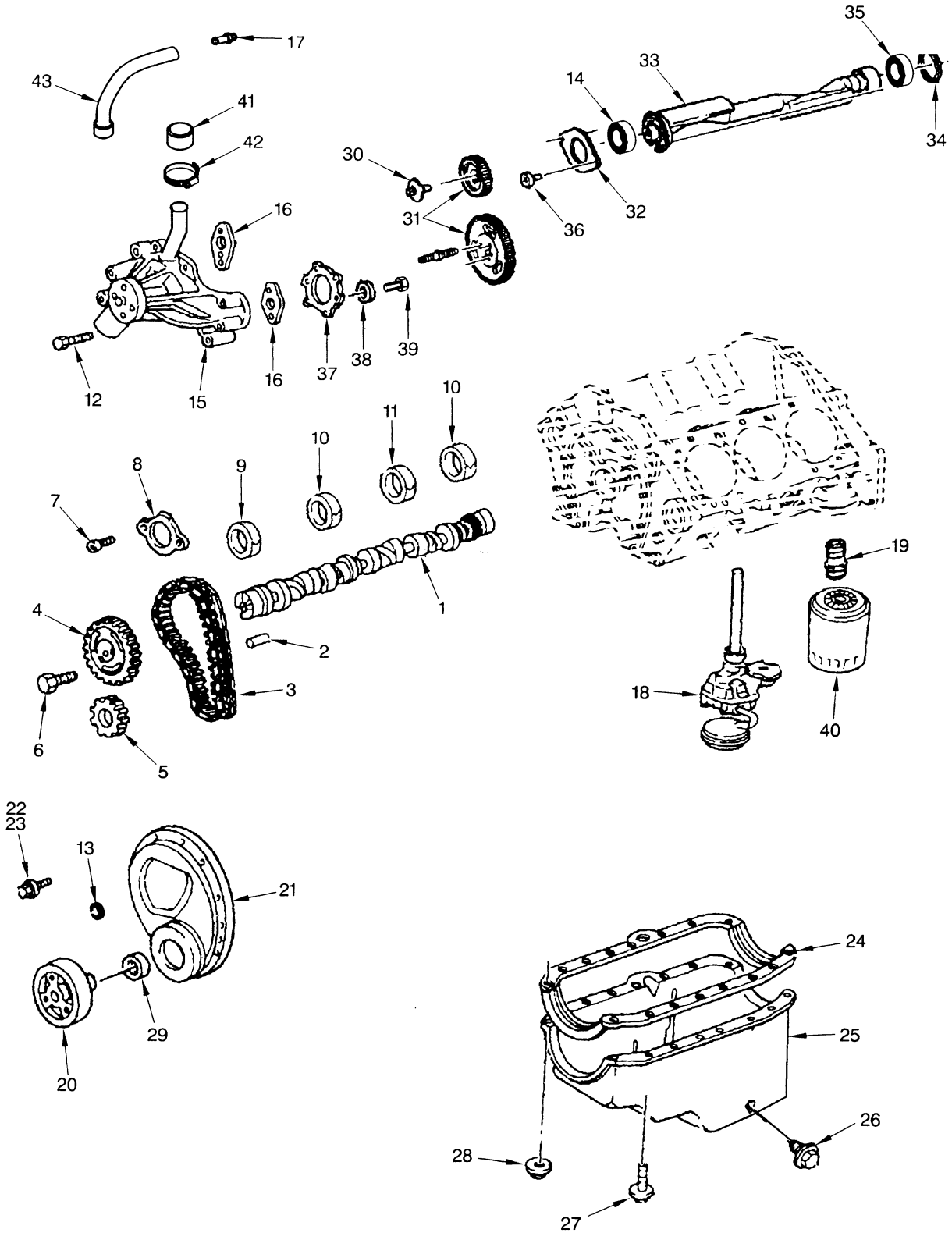
Ref	Part No.	Name Of Part	Qty A	B	C	D
	1380300	Engine (6LX)	1	..	..	..
	1393582	Engine (7LX)	..	1	..	..
	1453581	Engine (8LX)	..	..	1	..
	1459646	Engine (9LX)	..	..	..	1
1	1374296	Camshaft	1	1	..	..
1	1456111	Camshaft	..	..	1	1
2	1374297	Pin	2	2	2	2
3	375616	Chain	1	..	..	..
3	1450792	Chain	..	1	1	1
4	1374300	Sprocket	1	1	1	1
5	375615	Sprocket	1	1	1	1
6	1374301	Bolt	3	3	3	3
7	1374299	Bolt	2	2	2	2
8	1374298	Retainer	1	1	1	1
9	301955	Bearing (Camshaft)	1	1	..	..
9	1454955	Bearing (Camshaft)	..	..	1	1
10	301956	Bearing (Camshaft)	2	2	..	..
10	1454956	Bearing (Camshaft)	..	..	2	2
11	301957	Bearing (Camshaft)	1	1	..	..
11	1454957	Bearing (Camshaft)	..	..	1	1
12	1374307	Bolt	2	..	..	..
12	1383257	Bolt	..	4	4	4
13	263827	Bolt	2	..	..	..
14	1335240	Bolt	1	..	..	..
15	1389100	Water Pump	1	1	1	1
16	263828	Joint	2	2	2	2
17	159977	Pin	6	6	6	6
18	....	Oil Pump	1	1	1	1
		☞ Figure 39				
19	375587	Fitting (Oil Filter)	1	1	1	1
20	1386178	Damper	1	1	1	1
21	1386180	Cover	1	1	1	1
22	1386179	Bolt	3	3	3	3
23	1377103	Bolt	2	2	2	2
24	1386184	Joint (Oil Sump)	1	1	1	1
25	1389104	Oil Sump	1	1	1	1
26	1460757	Screw	1	1	1	..
26	1460757	Screw	..	..	..	1
26	388305	Joint	1	1	1	..
26	1460758	Joint	..	..	..	1
27	1386183	Bolt	10	10	10	10
28	1360178	Nut	2	2	2	2
29	1377104	Seal	1	1	1	1
30	1374317	Bolt	6	6	6	6
31	1374315	Kit-Gear (Balancer)	1	1	1	1
32	1374326	Retainer	1	1	1	1
33	1377107	Shaft (Balancer)	1	1	1	1
34	1374313	Plug	1	1	1	1
35	1374314	Bearing	1	1	1	1
36	1339963	Bolt	2	2	2	2
37	1335494	Joint	1	1	1	..
37	1460322	Joint	..	..	..	1
38	369748	Washer	10	10	10	10
39	1374108	Bolt	10	10	10	10
40	1320000	Oil Filter	1	1	1	1
41	1383263	Cap	1	1	1	1
42	130845	Clamp	1	1	1	1
43	1386177	Screen (Oil Pump)	1	..	..	1
43	1451320	Screen (Oil Pump)	..	1	1	..
44	1392547	Hose	1	1	1	..
45	1392548	Clamp	2	2	2	2
46	1393350	Nipple	1	1	1	1

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CAMSHAFT AND OIL PAN (FIGURE 38)

GASOLINE AND LPG

2000 SERIES ENGINE



CAMSHAFT AND OIL PAN

GASOLINE AND LPG

2000 SERIES ENGINE

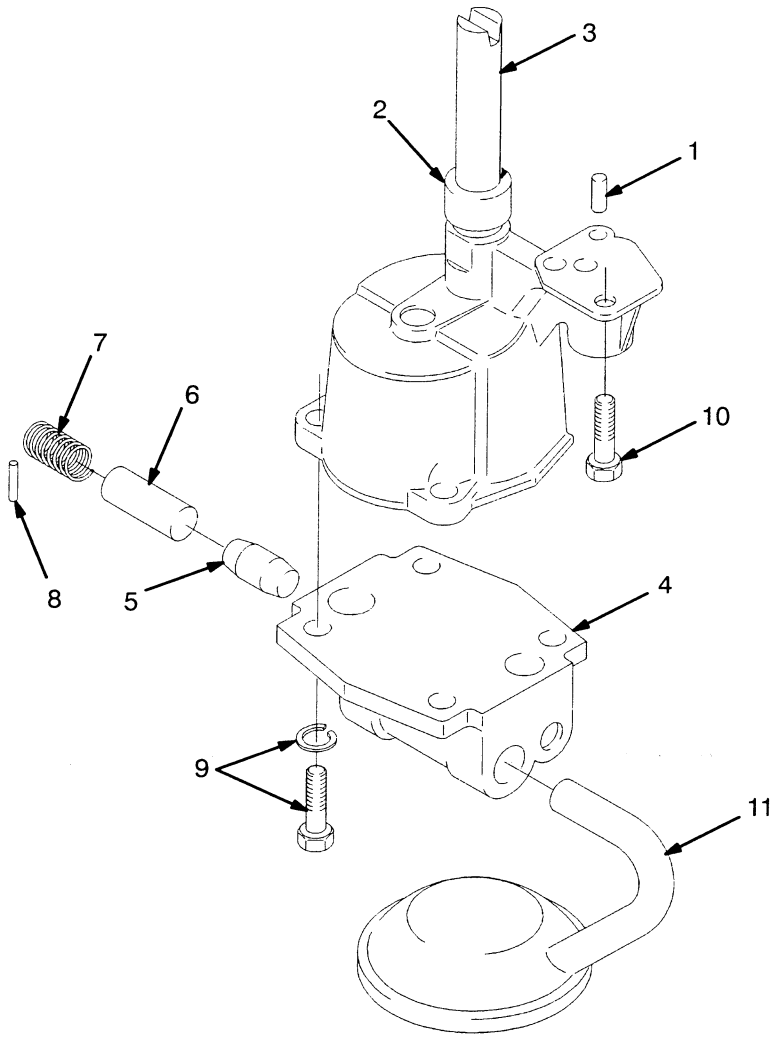
Ref	Part No.	Name Of Part	Qty
	1467584	Engine	1
1	1456111	Camshaft	1
2	1374297	Pin	1
3	1471556	Chain Kit	1
4	.....	Sprocket	1
5	.....	Sprocket	1
6	1374301	Bolt	3
7	1334299	Bolt	2
8	1374298	Retainer	1
9	1454955	Bearing	2
10	1454956	Bearing	2
11	1454957	Bearing	1
12	1383257	Bolt	4
13	1384092	Grommet	1
14	1451321	Bearing	1
15	1389100	Water Pump	1
16	263828	Gasket	2
17	1393350	Nipple	1
18	....	Oil Pump	1
		☞ Figure 39	
19	375587	Fitting	1
20	1386178	Damper	1
21	1386180	Cover	1
22	1386179	Bolt	3
23	1377103	Bolt	2
24	1386184	Gasket	1
25	1471558	Oil Pan	1
26	1460757	Screw	1
26	1460758	Seal	1
27	1386183	Bolt	10
28	1360178	Nut	2
29	1377104	Seal	1
30	1374317	Bolt	6
31	1374315	Kit-Gear	1
32	1374326	Retainer	1
33	1377107	Shaft	1
34	1374313	Plug	1
35	1374314	Bearing	1
36	1339963	Bolt	2
37	1460322	Gasket	1
38	369748	Washer	5
39	1374108	Bolt	10
40	1320000	Oil Filter	1
40	2038072	Oil Filter (Optional)	1
41	1383263	Cap	1
42	130845	Clamp	1
43	1460332	Hose	1

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OIL PUMP (FIGURE 39)

GASOLINE & LPG

4LM 1994, 5LM 1995, 1996 THRU 2000 SERIES ENGINE



REF	PART NO.	NAME OF PART	QTY
	1386176	Oil Pump	1
1	263844	Pin	2
2	263795	Retainer	1
3	263794	Shaft	1
4	1374319	Cover	1
5	1338223	Oil Pressure Stop Valve	1
6	268573	Pressure Regulator Valve	1
7	1374320	Spring	1
8	1330453	Pin	1
9	1333541	Screw and Washer	2

REF		PART NO.	NAME OF PART	QTY
10		388306	Bolt	1
11	a	1374321	Screen-Oil Pump	1
11	b	1386177	Screen-Oil Pump	1
11	c	1451320	Screen-Oil Pump	1

a 1994 And 1995 Series Engine
b 1996 Series Engine
c 1997,1998, 1999 Series Engine

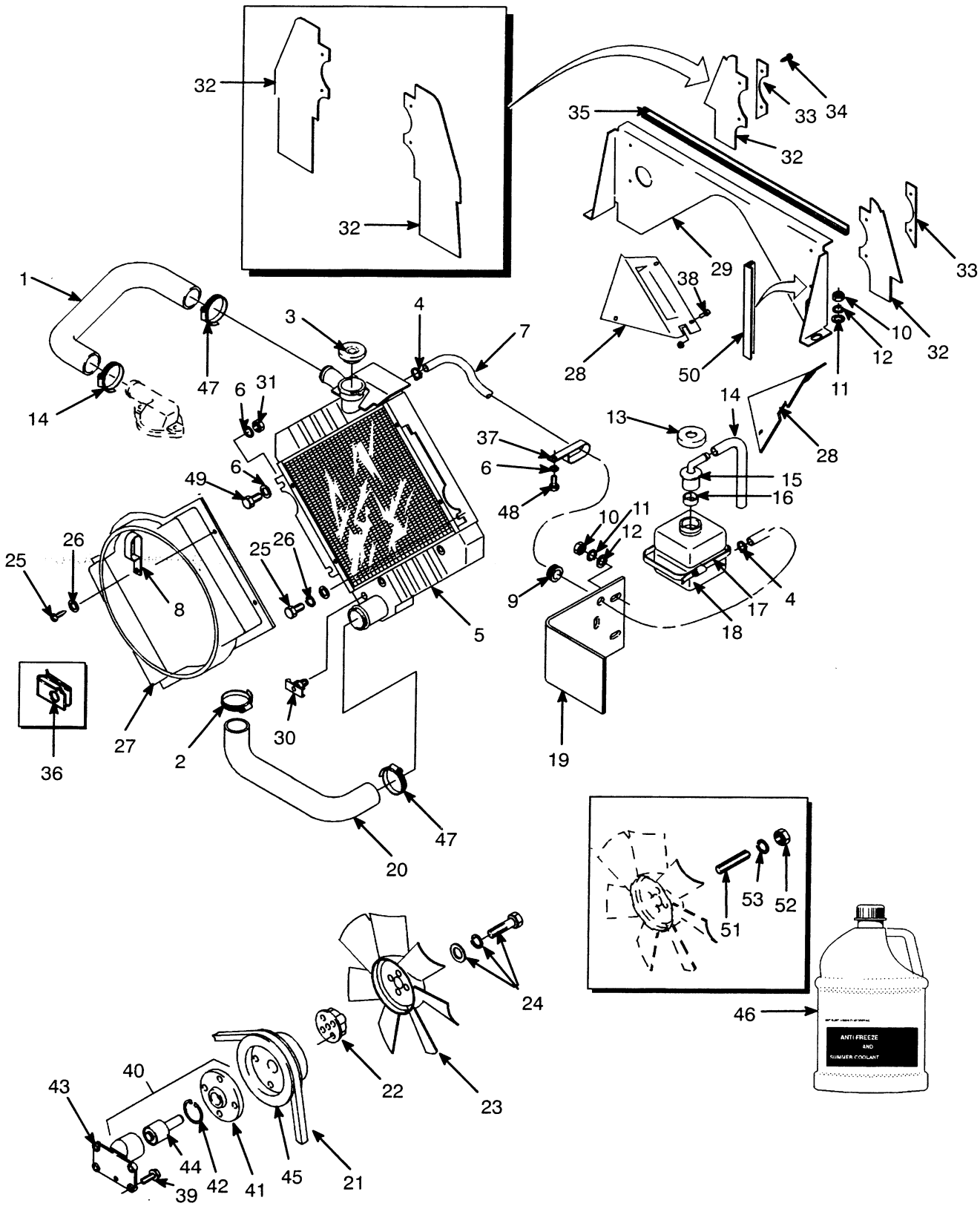
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NOTES

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COOLING SYSTEM (FIGURE 40)

DIESEL



COOLING SYSTEM

DIESEL

REF		PART NO.	NAME OF PART	QTY
1		377334	Hose	1
2		112989	Clamp	1
3		178899	Cap (Radiator)	1
4		353310	Clamp	2
5	d	1387260	Radiator	1
5	e	1452142	Radiator	1
5		1339821	Radiator (Optional)	1
6		15127	Washer	3
7		1305436	Tube	1
8		128259	Clamp	1
9		279737	Grommet	1
10		239503	Nut	4
11		292681	Lockwasher	4
12		320158	Flatwasher	4
13		345454	Cap	1
14		339735	Hose	1
15		345453	Outlet	1
16		336550	Bushing	1
17		340204	Strap	1
18		344432	Reservoir	1
19		352609	Bracket	1
20		1322236	Hose	1
21	f	377332	Fan Belt (Without Low Emissions)	2
21	g	107195	Fan Belt (With Low Emissions)	2
22	a	1343968	Spacer (Without Low Emissions)	1
22	bf	1378427	Spacer (Without Low Emissions)	1
22	g	1455579	Spacer (With Low Emissions)	1
23	a	1343308	Fan	1
23	b	1373924	Fan	1
24	f	136703	Capscrew (Without Low Emissions)	4
24	f	292681	Lockwasher (Without Low Emissions)	4
24	f	320157	Flatwasher (Without Low Emissions)	4
25		136985	Capscrew	3
25		292682	Lockwasher	3
26		320159	Washer	3
27		1456479	Shroud	1
27		1456480	Shroud (Optional)	1
28		1343300	Baffle (LH, H70-80XL & 90XLS)	1
28		1343301	Baffle, RH (H90-110XL)	1
29		1339820	Baffle (Without Noise Reduction)	1
29		1356992	Baffle (With Noise Reduction)	1
30		12815	Drain Valve	1
31		136692	Nut	2
32		1343937	Seal (H70-80XL)	1
32		1358604	Seal (H90-110XL)	1
32		1358603	Seal (Optional) (H70-110XL)	1
33		1357930	Retainer	1
34		1301177	Screw	4
35		1343320	Trim	1
36		1343927	Clip	2
36		1329271	Clip (For Optional Shroud)	2
37		124297	Clamp	2
38		1301177	Screw	1
39	c	1343174	Screw	4
40	c	1347275	Housing Assembly (Without Low Emissions)	1
40	h	1456516	Housing Assembly (With Low Emissions)	1
41		....	Hub	1
42	c	982328	Snap Ring	2
43		....	Housing	1
44		....	Bearing	1
45	f	377395	Pulley (Without Low Emissions)	1
45	g	1455577	Pulley (With Low Emissions)	1
46		3002338	Antifreeze (1 Gallon)	1
46		3002323	Antifreeze (55 Gallons)	1
47		119236	Clamp	3
48		124119	Screw	1
49		16073	Capscrew	2
50		1343321	Trim (H90XL)	2
51	g	287750	Stud (With Low Emissions)	4
52	g	....	Locknut (With Low Emissions)	4
53	g	292681	Washer (With Low Emissions)	4

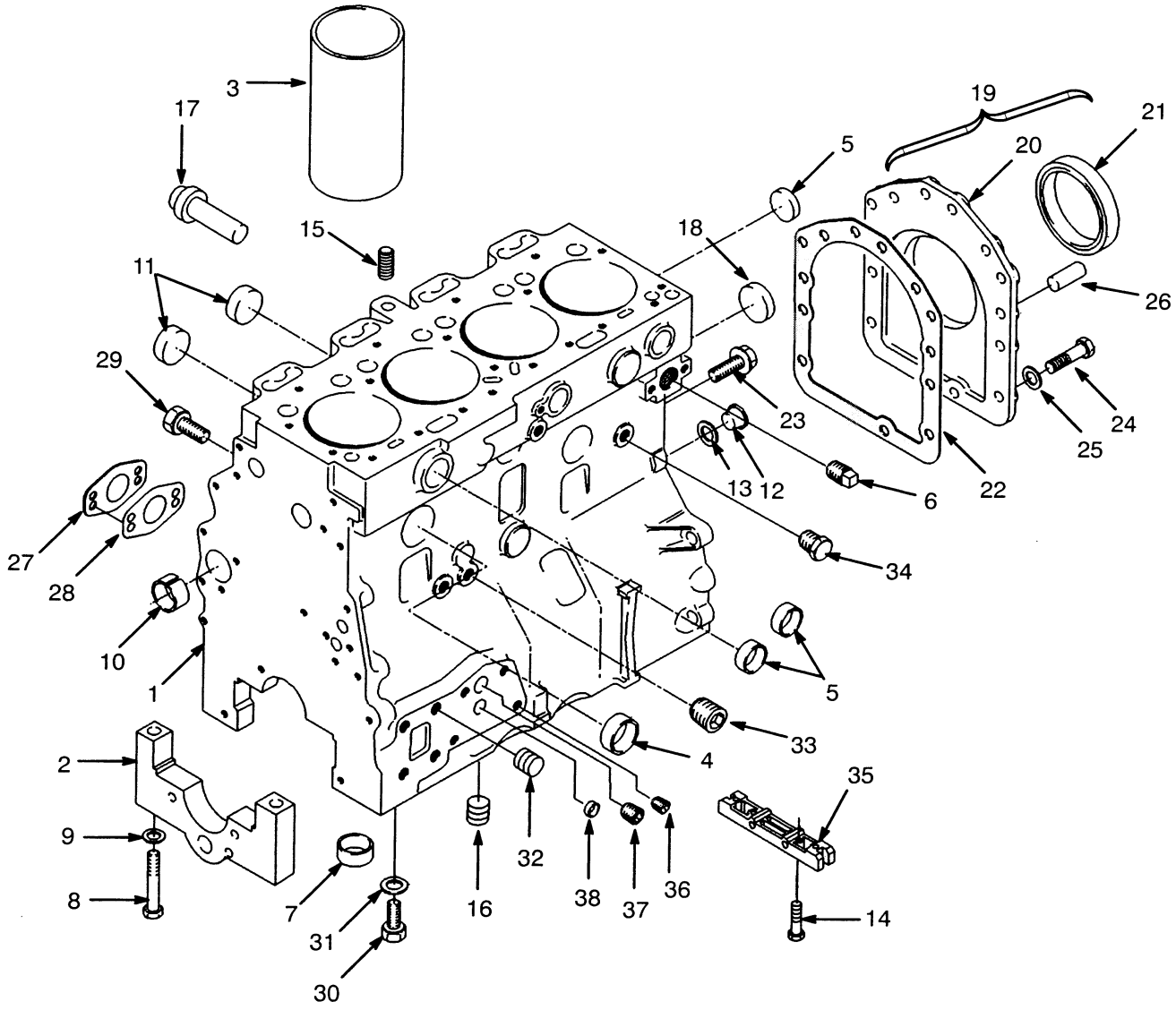
a Last Used on S/N G005D-4371
b First Used on S/N G005D-4372
c Included With Engines 377323 and 1343305
d Last Used on S/N G005D-10472
e First Used on S/N G005D-10473
f Last Used on S/N G005D-11941
g First Used on S/N G005D-11942
h Included With Engine 1453203

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CYLINDER BLOCK (FIGURE 41)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



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CYLINDER BLOCK

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1		1391776	Kit-Cylinder Block	1	1
2		....	Bearing Cap	5	5
3	b	1305696	Liner	4	4
4	b	349377	Plug	1	1
4	b	1390126	Plug	1	1
5	b	980727	Plug	6	6
6	b	15304	Fitting	1	1
7	b	99576	Thimble	10	10
8	b	16794	Capscrew	10	10
9	b	301836	Washer	10	10
10	b	257603	Bushing	1	1
11	b	385531	Plug	6	6
12	b	161385	Plug	1	1
13	b	984632	Washer	1	1
14		1307875	Screw	8	8
15		992393	Plug	1	1
16		170748	Plug	1	1
17		365854	Plug	1	1
18		1388387	Plug	1	1
19		1369077	Housing	1	1
20		....	Cover	1	1
21		350397	Seal	1	1
22	a	1379734	Gasket	1	1
23		386459	Screw	10	10
24		1369081	Screw	2	2
25		328043	Washer	2	2
26		158139	Dowel Pin	2	2
27		1305698	Plate	1	1
28	ab	1345784	Gasket	1	1
29	b	1306349	Screw	2	2
30	b	16372	Capscrew	4	4
31		152605	Spacer	4	4
32		1306341	Plug	4	4
33		15483	Fitting	2	1
34		245800	Plug	1	1
35	c	1319537	Bridge Piece	1	1
35	d	1450136	Bridge Piece	1	1
36		1318904	Plug	2	2
37		15314	Plug	1	1
38		158017	Plug	1	1

a Included In Bottom Gasket Kit 1371723
b Included in Cylinder Block Kit 1391776
c Last Used On Engine S/N U503404S
d First Used On Engine S/N U503405S

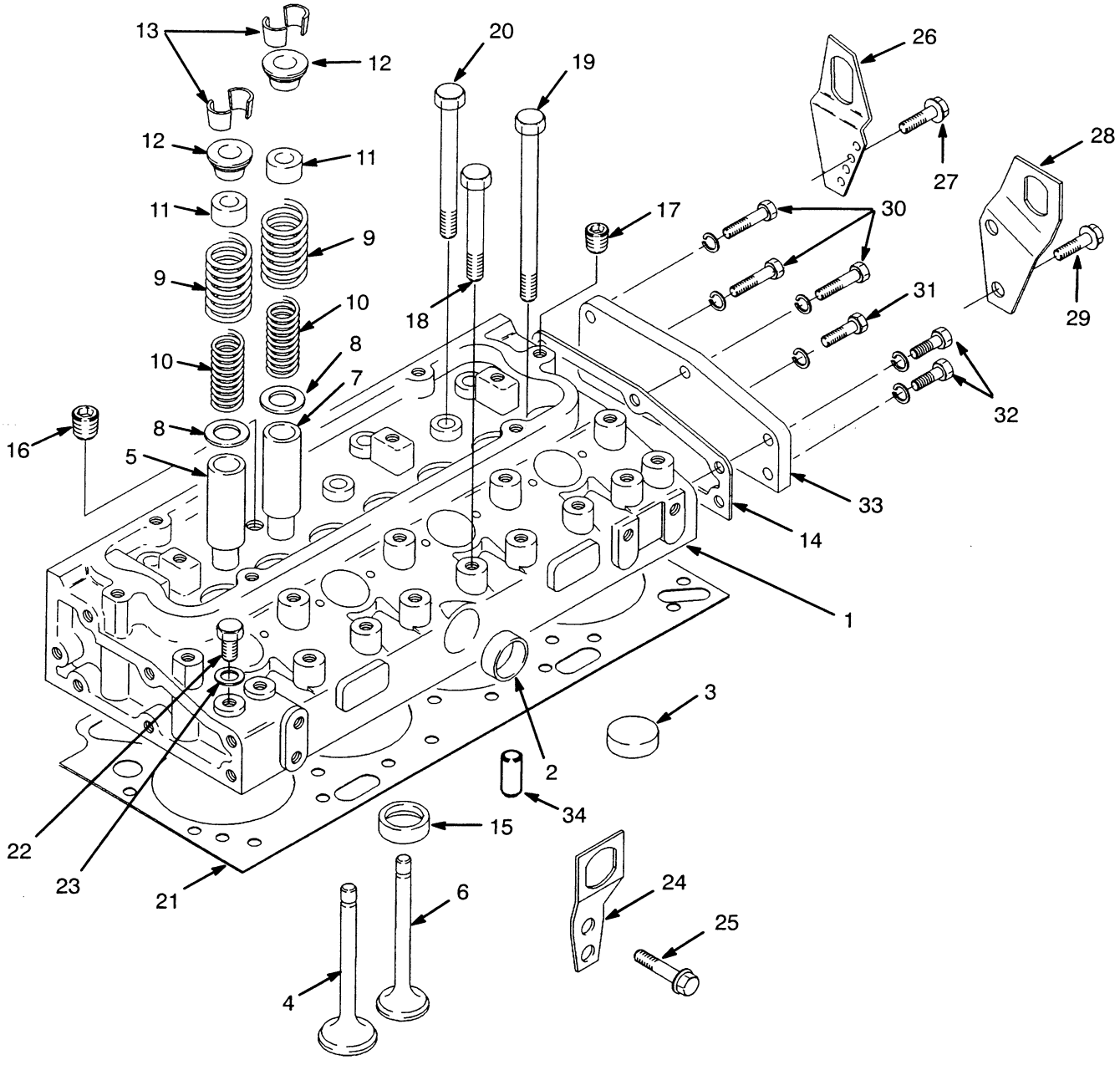
Service Note: Service Up To Date Code 1/31/94 With (2) 1369081 Screws And (2) 328043 Washers. Service Date Code 2/1/94 And Up With (2) 1382061 Screws.

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CYLINDER HEAD (FIGURE 42)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



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CYLINDER HEAD

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1	c	1315755	Head	1	1
1	ed	.....	Cylinder Head	1	1
2	e	980727	Plug	1	1
3	e	349380	Plug	4	4
4	e	1305711	Valve (Intake, Standard)	4	4
5	e	1382073	Guide	4	4
6	e	371536	Valve (Exhaust, Standard)	4	4
7	e	1305714	Guide	4	4
8	e	99569	Washer	8	8
9	e	1305715	Spring	8	8
10	e	1305716	Spring	8	8
11	aeb	187004	Seal	8	8
12	e	1305717	Cap	8	8
13	e	99571	Keeper	16	16
14	ab	1369074	Gasket	1	1
15	e	1305709	Insert	4	4
16	e	15962	Fitting	1	1
17	e	15302	Fitting	4	4
18	e	195342	Screw	8	8
19	e	361336	Screw	2	2
20	e	195343	Screw	12	12
21	abc	1323017	Gasket	1	1
21	d	1388444	Gasket	1	1
22		992025	Plug	1	1
23		986475	Washer	1	1
24		1306346	Plate	1	1
25		1307910	Screw	4	4
26		1306347	Plate	1	1
27		1306371	Screw	2	2
28		1315750	Plate	1	1
29		1315499	Screw	1	1
30		1307881	Capscrew	3	3
31		386459	Capscrew	1	1
32		1306371	Capscrew	2	2
33		1306199	Plate	1	1
34	d	162288	Dowel Pin	2	2

a Included In Top Gasket Kit 1371731
Last Used On Engine S/N U600869W

b Included In Top Gasket Kit 1391225
First Used On Engine S/N U600870W

c Last Used On Engine S/N U707726AW

d First Used On Engine S/N U707727

e Included In Kit 1456064

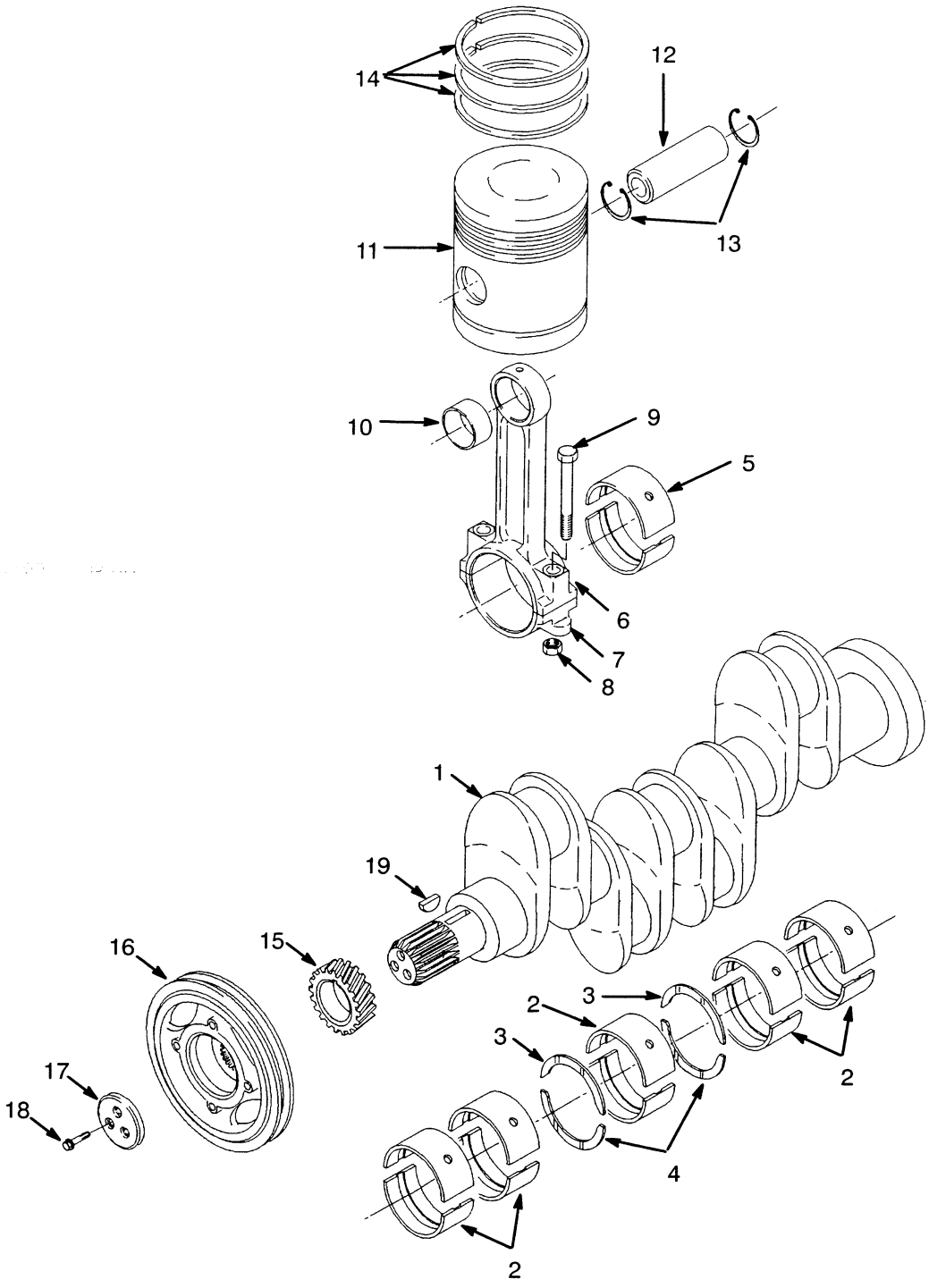
Note: Engine 1343305 Used Top Gasket Kit 1391225 Only.

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CRANKSHAFT AND PISTONS (FIGURE 43)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



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CRANKSHAFT AND PISTONS

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1	a	271299	Crankshaft/Bearing	1	1
2	a	161425	Bearing (Main, Standard)	1	1
2		161429	Bearing (Main, .010 in)	1	1
2		161430	Bearing (Main, .020 in)	1	1
2		161431	Bearing (Main, .030 in)	1	1
3	a	842799	Washer (Standard)	2	2
3		161296	Washer (.007 in)	2	2
4	a	842800	Washer (Standard)	2	2
4		161297	Washer (.007 in)	2	2
5	a	161426	Rod Bearing (Standard.)	1	1
5		161432	Rod Bearing (0.010 in)	1	1
5		161433	Rod Bearing (0.020 in)	1	1
5		161434	Rod Bearing (0.030 in)	1	1
6		161440	Connector Rod	4	4
6		1458329	Thimble	2	2
7		....	Cap	1	1
8		99663	Nut	2	2
9		161648	Bolt	2	2
10		99668	Bushing	1	1
11	b	1459456	Kit-Piston	4	4
12		....	Pin	1	1
13		992003	Snap Ring	2	2
14	b	1459457	Kit-Ring	4	4
15		1305706	Gear	1	1
16		1306193	Pulley	1	1
17		1306194	Block	1	1
18		302713	Screw	3	3
19		99610	Key	1	1

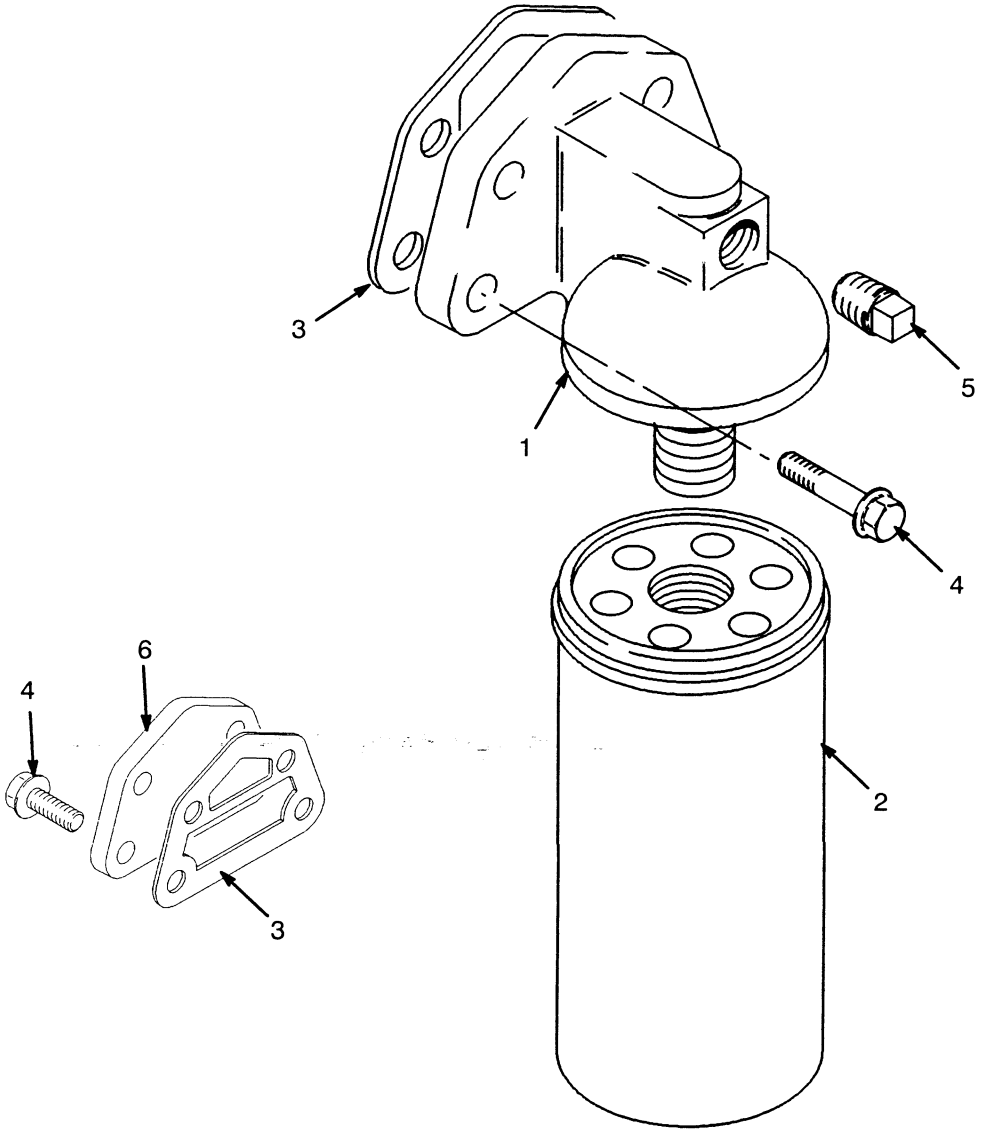
a Crankshaft/Bearing Includes Standard Size Bearings And Thrust Washers

b Up To Engine S/N U797494C Serive With Piston Kit-1382564 And Ring Kit 1309832

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OIL FILTER (FIGURE 44)

DIESEL



KEY:
A: Oil Clutch
B: Powershift (Last Used On S/N G005D-11942)
C: Powershift (First Used On S/N G005D-11942)

REF		PART NO.	NAME OF PART	QTY A	QTY B	QTY C
		377323	Engine	1	..	..
		1343305	Engine	..	1	..
		1453203	Engine	..	..	1
1		1315767	Filter Head	1	1	1
2		195852	Filter Element	1	1	1
3		1345800	Gasket	1	1	..
3		1345800	Gasket	..	..	1
4	b	1307915	Screw	4	4	4
4	a	1307893	Screw	4	4	..
5		15304	Fitting	1	1	..
5		15314	Fitting	..	..	1
6	c	1374982	Plate	1	1	1

a Last Used On Engine S/N U646744Y
b First Used On Engine S/N U646745Y
c Included in Cylinder Block Kit 1391776

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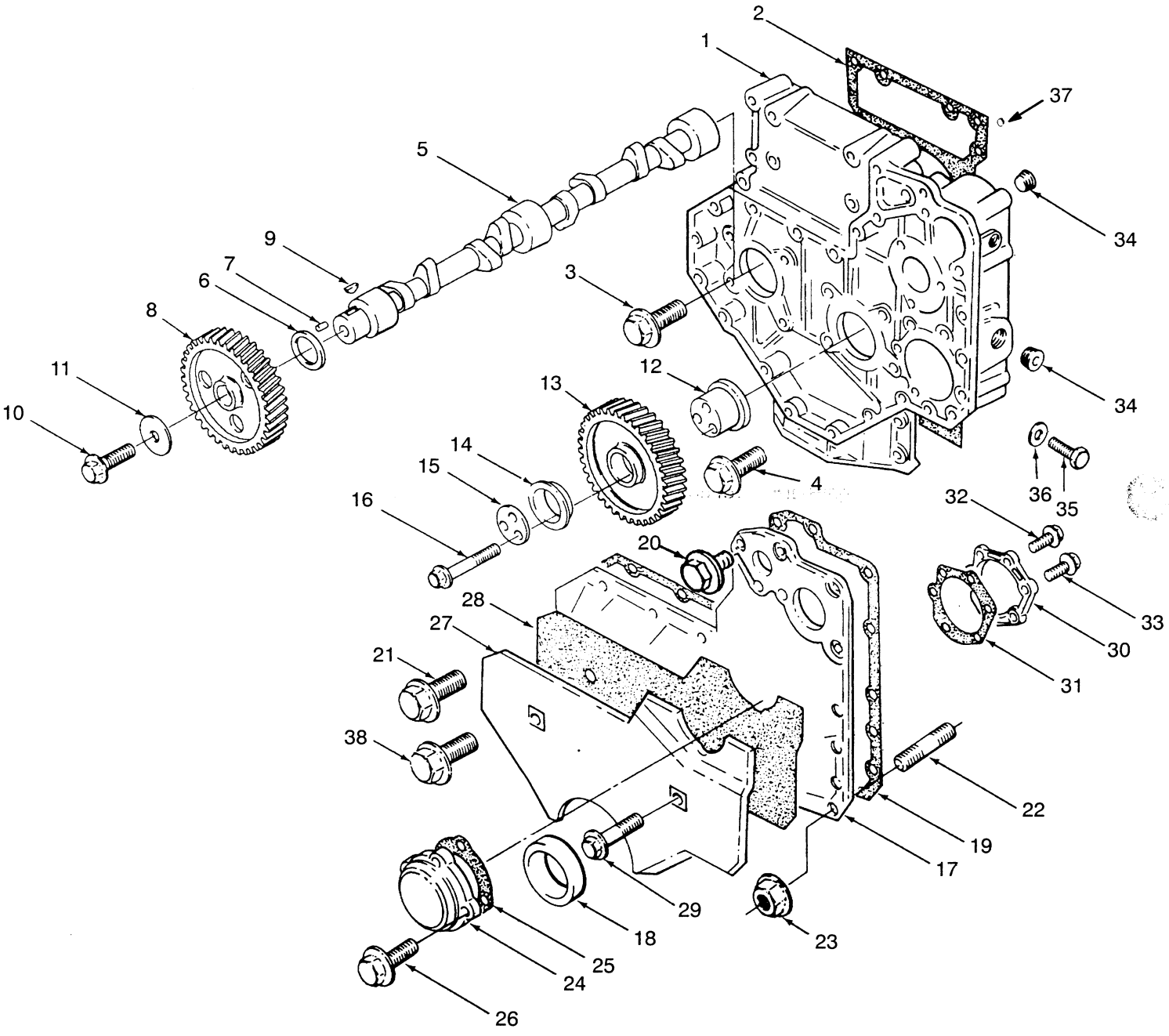
NOTES

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TIMING GEAR (FIGURE 45)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



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TIMING GEAR

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1		1460191	Case	1	1
1		1371704	Plug	1	1
2	a	1345787	Gasket	1	1
3		386459	Screw	8	8
4		1306354	Screw	4	4
5		1458319	Camshaft	1	1
6		303758	Washer	1	1
7		298096	Dowel	1	1
8		1382481	Gear	1	1
9		99610	Key (Woodruff)	1	1
10		1306355	Screw	1	1
11		1306364	Washer	1	1
12		229875	Hub (Idler Gear)	1	1
13		1306030	Gear	1	1
14		983484	Bushing	1	1
15		1382479	Plate	1	1
16		1306356	Screw	3	3
17		1306031	Cover	1	1
18		350399	Seal	1	1
19	a	1357736	Gasket	1	1
20		1306357	Screw	6	6
21		1306358	Screw	1	1
22		1306033	Stud	2	2
23		1306359	Nut	2	2
24		1306034	Cover	1	1
25	a	1345790	Gasket	1	1
26		1306360	Screw	4	4
27		1306036	Shield	1	1
28		1306037	Damper	1	1
29		1306361	Screw	2	2
30		1456511	Plate	1	1
31	a	1329660	Gasket	1	1
32		1465392	Screw	5	5
33		1306354	Screw	1	1
34		15962	Fitting	3	3
35		1306219	Plug	1	1
36		101985	Washer	1	1
37		1311072	Plug	1	1
38		1306362	Screw	6	6

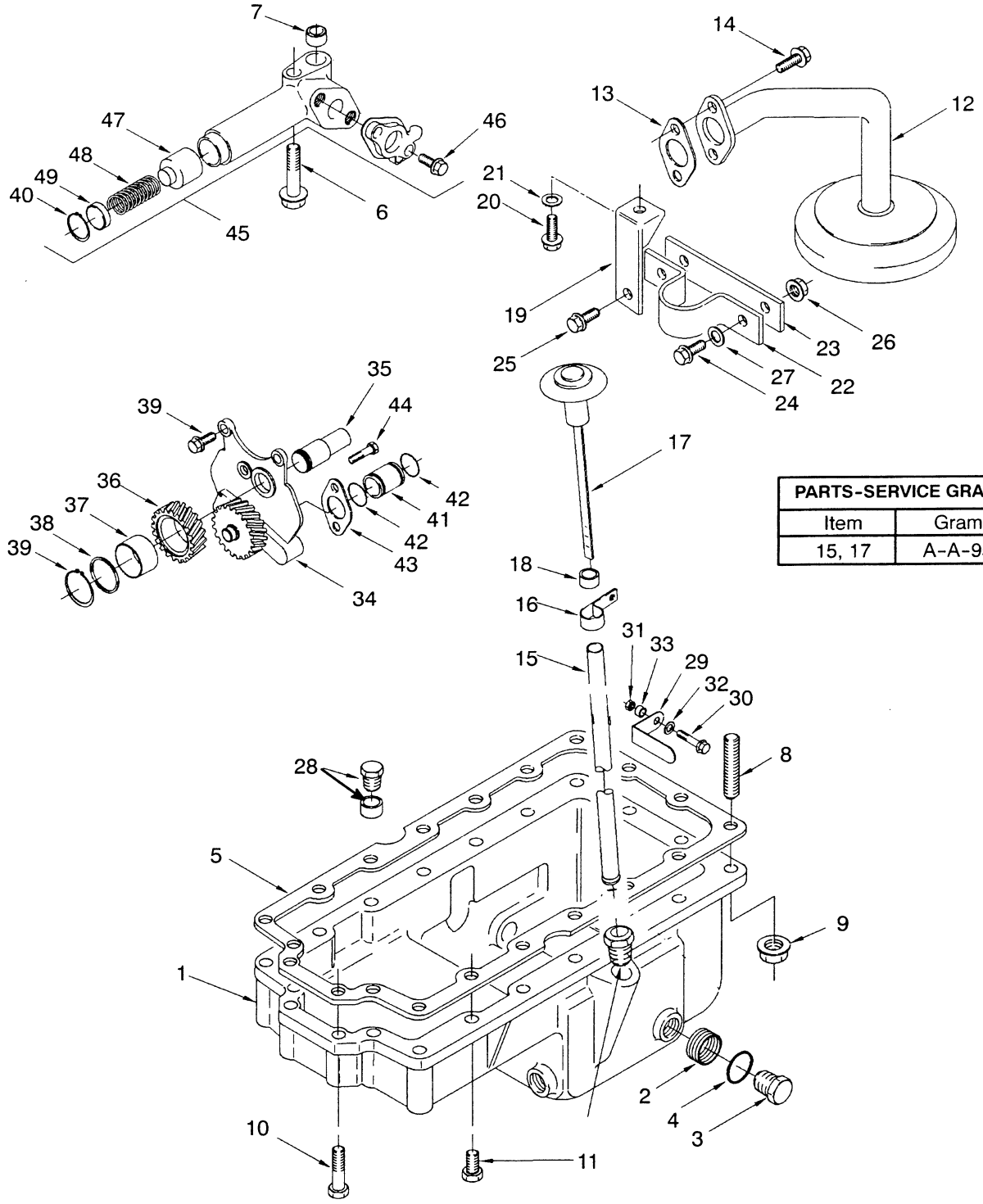
a Included In Bottom Gasket Kit 1371723

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OIL PAN AND PUMP (FIGURE 46)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



PARTS-SERVICE GRAM	
Item	Gram
15, 17	A-A-95

OIL PAN AND PUMP

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1		1306137	Sump	1	1
2		266465	Insert	2	2
3		377976	Plug	2	2
4		1306374	O-Ring	2	2
5	a	328013	Gasket	1	1
6		1306368	Screw	1	1
7		1454315	Thimble	2	2
8		1307876	Stud	2	2
9		1306359	Nut	2	2
10	d	1307878	Screw	6	6
10	e	1318965	Screw	6	6
11		386459	Screw	12	12
12		1306140	Pipe	1	1
13	a	1344921	Gasket	1	1
14		1307879	Screw	2	2
15	b	1306141	Tube	1	1
15	c	1385702	Tube	1	1
16		1306142	Clamp	1	1
17	b	1342594	Dipstick	1	1
17	c	1385701	Dipstick	1	1
18		1306145	Seal	1	1
19		1306146	Bracket	1	1
20		1307881	Screw	1	1
21		296418	Washer	1	1
22		1306147	Clip	1	1
23		1306148	Plate	1	1
24		1307882	Screw	1	1
25		1307883	Screw	1	1
26		1307884	Nut	2	2
27		1307885	Washer	1	1
28		1377908	Plug	1	1
29		1306176	Bracket	1	1
30		1307886	Screw	1	1
31		1307887	Nut	1	1
32		293780	Washer	1	1
33		245781	Spacer	1	1
34		1306039	Oil Pump	1	1
35		1380755	Shaft	1	1
36		1306040	Gear	1	1
37		1306041	Bushing	1	1
38		385847	Washer	1	1
39		328047	Snap Ring	1	1
40		1306328	Snap Ring	1	1
41		1306042	Pipe	1	1
42		1306363	O-Ring	2	2
43		1306043	Flange	1	1
44		1306358	Screw	2	2
45		1315494	Relief Valve	1	1
46		1306367	Screw	3	3
47		301749	Spool	1	1
48		1306047	Spring	1	1
49		301751	Cap	1	1

a Included In Bottom Gasket Kit 1371723

b Last Used On Engine S/N U690784A
Replace Both Tube And Dipstick with New Tube And Dipstick

c First Used On Engine S/N U690785A

d Last Used On Engine S/N U503404S

e First Used On Engine S/N U503405S

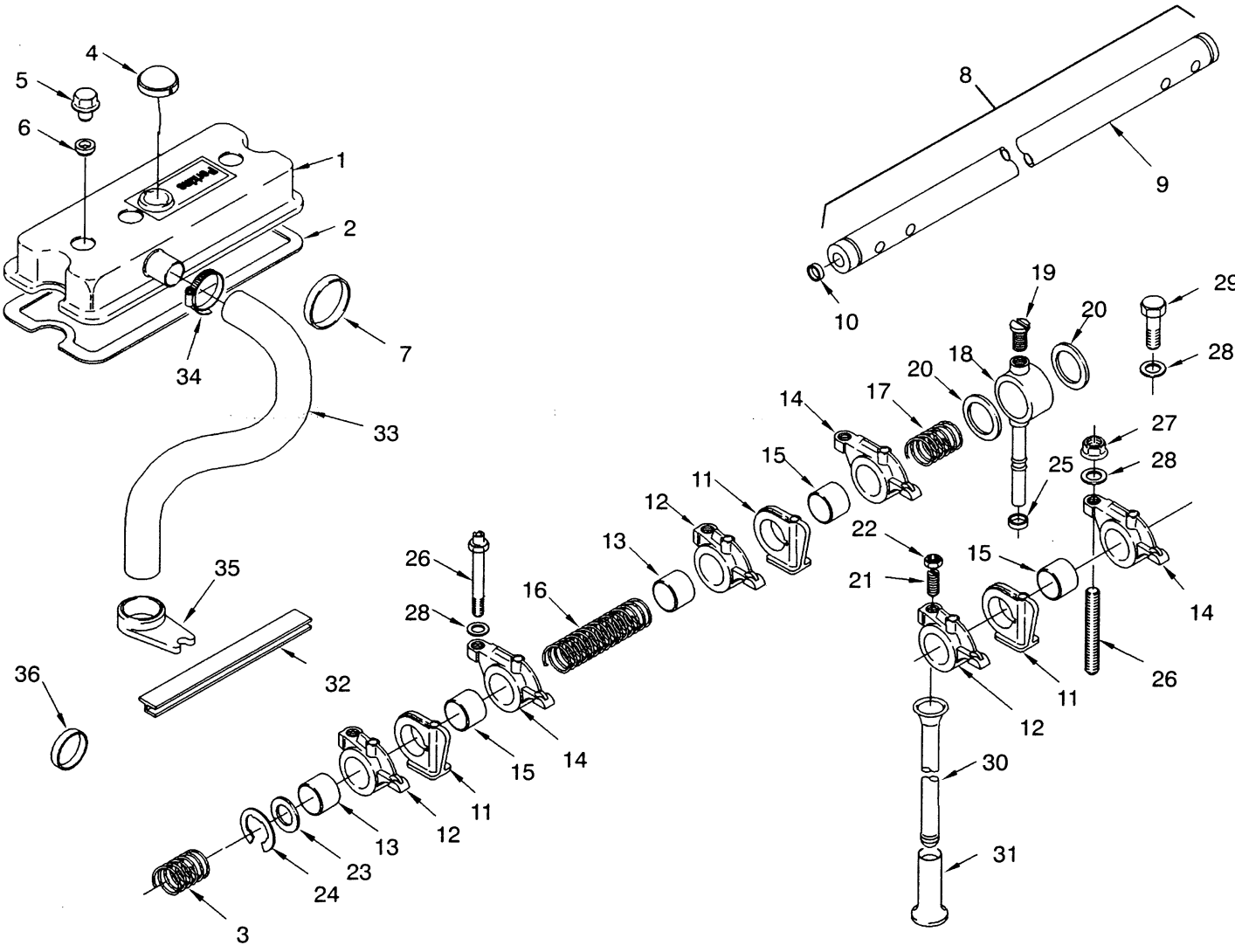
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VALVE COVER AND ROCKER SHAFT (FIGURE 47)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

PARTS-SERVICE GRAM	
Item	Gram
1,2,3,4	A-A-97



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for service procedures

VALVE COVER AND ROCKER SHAFT

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1	b	1315495	Cover	1	..
1	c	1390148	Cover	1	1
2	ab	1306179	Gasket	1	..
2	cd	1390147	Gasket	1	1
3		358506	Spring	1	1
4	b	1306180	Cap	1	1
4	c	1306180	Cap	1	1
4	b	1391246	Seal	1	1
4	c	1391246	Seal	1	1
5		1307888	Nut	3	3
6	e	301775	Bushing	3	3
6	e	1380245	Seal	3	3
6	e	1371711	Shim	3	3
7		385531	Plug	1	1
8		1305720	Shaft	1	1
9		1305721	Rocker Shaft	1	1
10		990429	Plug	1	1
11		1370947	Bracket	4	4
12		1458331	Lever, RH	4	4
13		161454	Bushing	1	1
14		1458332	Lever, LH	4	4
15		161454	Bushing	1	1
16		99722	Spring (Long)	2	2
17		99723	Spring (Short)	2	2
18		1374980	Connector	1	1
18		1370948	Screw	1	1
19		360816	Screw	1	1
20		367394	Shim	2	2
21		1466859	Screw	8	8
22		15026	Nut	8	8
23		377945	Washer	2	2
24		99725	Snap Ring	1	1
25		158187	Sleeve	1	1
26		1306351	Stud	4	4
27		216877	Nut	4	4
28		1306352	Washer	4	4
29		1306353	Screw	1	1
30		99728	Push Rod	8	8
31		224248	Tappet	8	8
32	b	1306183	Seal	1	1
33		1315496	Pipe	1	1
34		130845	Clamp	1	1
35		301785	Bracket	1	1
36		1306182	Plug	1	1

a Included In Top Gasket Kit 1371731
Last Used On Engine S/N U600869W

b Last Used On Engine S/N U600869W

c First Used On Engine S/N U600870W

d Included In Top Gasket Kit 1391225
First Used On Engine S/N U600870W

e Service 301775 with 1380245 and 1371711

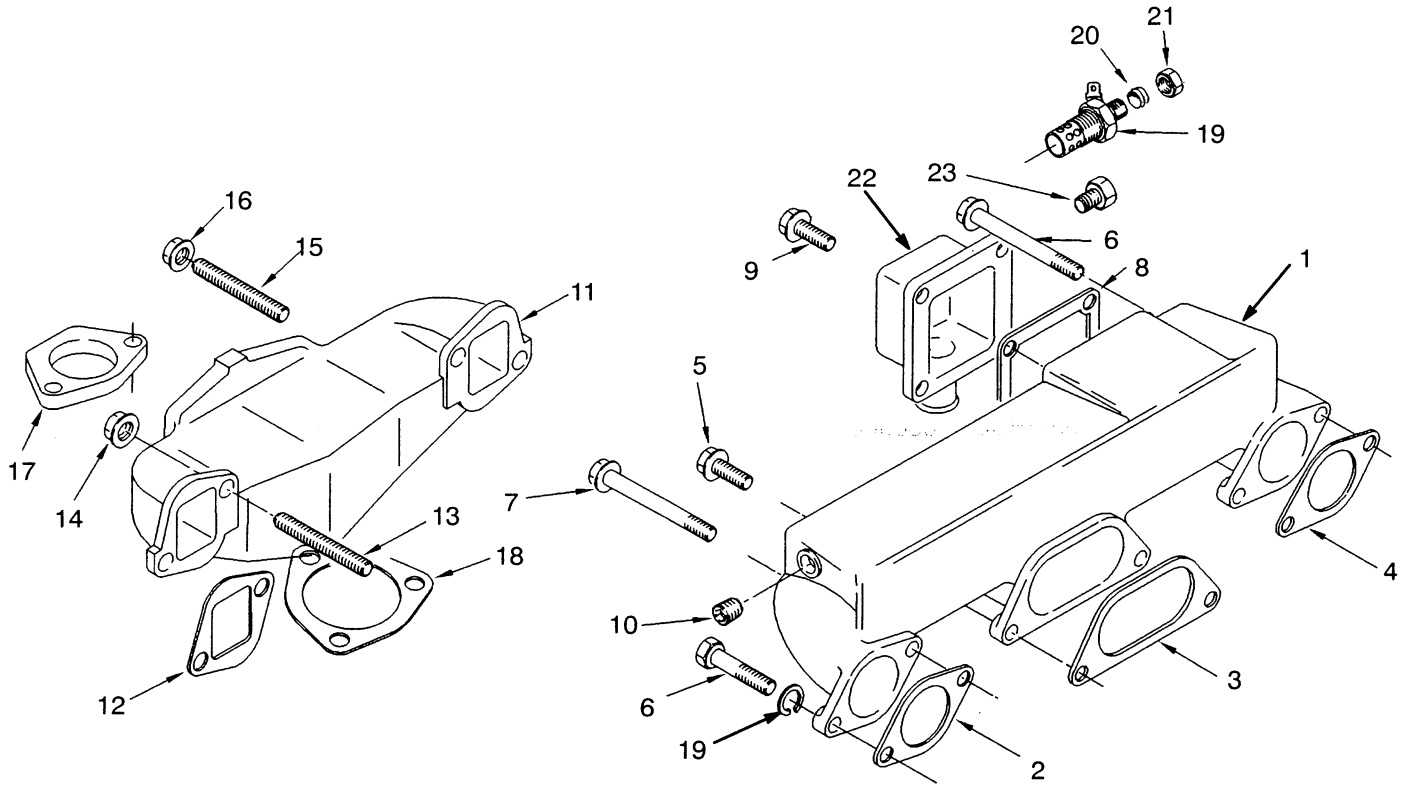
Note: Engine 1343305 Used Top Gasket Kit 1391225 Only.

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MANIFOLDS (FIGURE 48)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



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MANIFOLDS

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1		1306222	Intake Manifold	1	1
2	ab	361312	Gasket	1	1
3	ab	361313	Gasket	1	1
4	ab	361314	Gasket	1	1
5		1307915	Screw	4	4
6		1307916	Screw	1	1
7		1307917	Screw	1	1
8	ab	1345794	Gasket	1	1
9		1306358	Screw	4	4
10		15483	Fitting	1	1
11		1306223	Exhaust Manifold	1	1
12	ab	1371733	Gasket	2	2
13		1459730	Stud	4	4
14		1306370	Nut	4	4
15		1307877	Stud	3	3
16		1306370	Nut	3	3
17		1306224	Flange	1	1
18		1355319	Gasket	1	1
19		245885	Heater	1	1
20		152608	Olive	1	1
21		152609	Nut	1	1
22		377358	Elbow (Intake)	1	1
23		14349	Fitting	1	1

a Included In Top Gasket Kit 1371731
Last Used On Engine S/N U600869W

b Included In Top Gasket Kit 1391225
First Used On Engine S/N U600870W

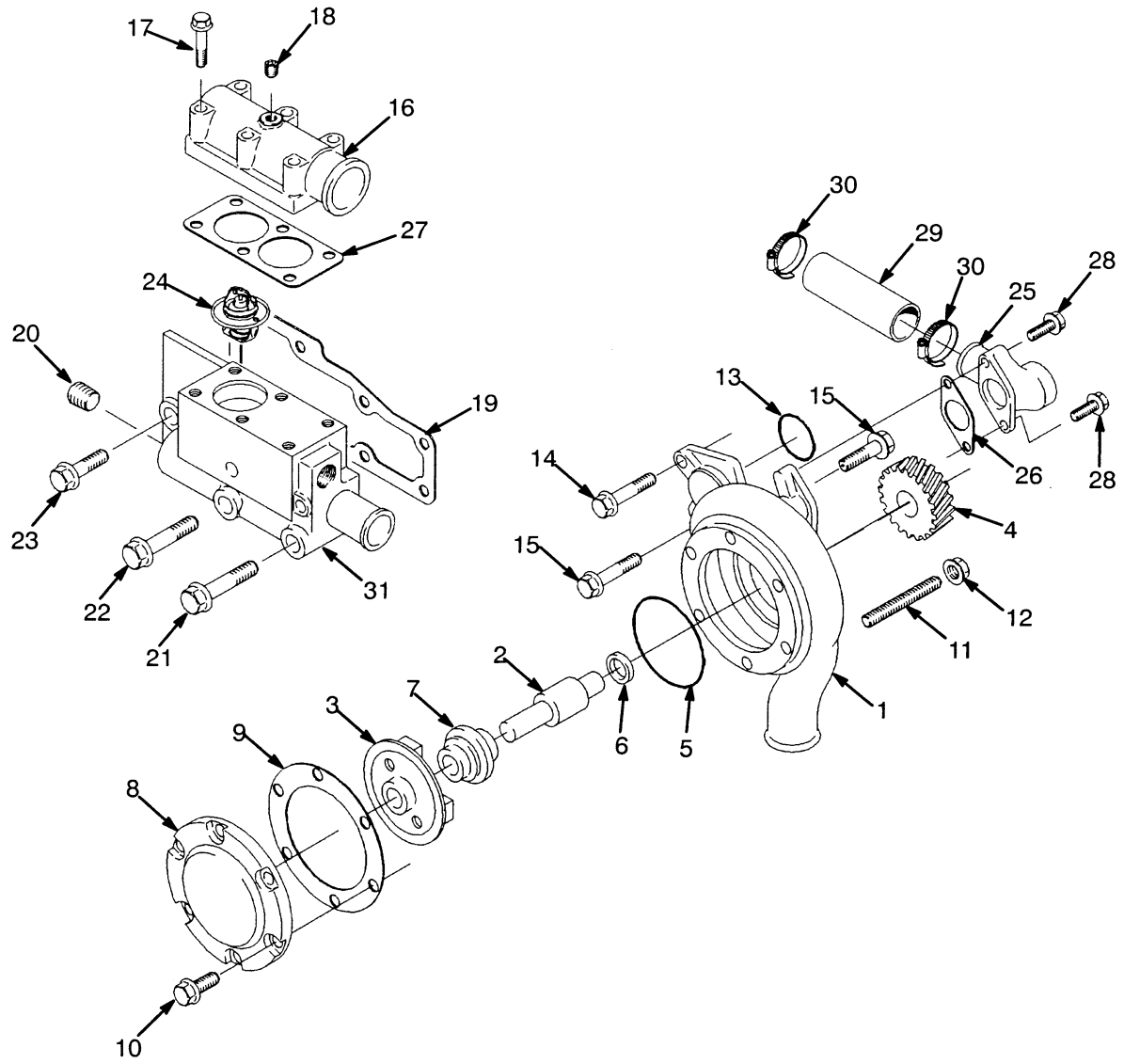
Note: Engine 1343305 Used Top Gasket Kit 1391225 Only.

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COOLANT PUMP (FIGURE 49)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942



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COOLANT PUMP

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005D-11942

KEY:
A: Oil Clutch
B: Powershift

REF		PART NO.	NAME OF PART	QTY A	QTY B
		377323	Engine	1	..
		1343305	Engine	..	1
1	a	1323449	Pump (Coolant)	1	1
1	b	1458267	Pump (Coolant)	1	1
1		....	Body	1	1
2	c	....	Shaft	1	1
3	c	....	Impeller	1	1
4		1306200	Gear	1	..
5	c	1307902	Seal	1	1
6	c	1307903	Seal	1	1
7	c	1388376	Seal	1	1
8		1306201	Cover	1	1
9	cd	1345785	Gasket	1	1
10		1307900	Screw	6	6
11		1307901	Stud	3	3
12		1306359	Nut	3	3
13	c	1466858	O-Ring	1	1
14		1307895	Screw	2	2
15		1306373	Screw	2	2
16	h	1306208	Connector	1	1
17		1307909	Screw	4	4
18		349378	Plug	1	1
19	ef	1345798	Gasket	1	1
20		15962	Fitting	2	2
21		1307897	Screw	2	2
22		1307895	Screw	1	1
23		1307898	Screw	2	2
24		301793	Thermostat (180° F)	1	1
25		1306205	Connector	1	1
26	ef	1345791	Gasket	1	1
27	ef	1345792	Gasket	1	1
28		1306358	Screw	2	2
29		1309831	Kit - Hose	1	1
30		119236	Clamp	2	2
31		1306203	Housing	1	1

a Last Used On 377323 Engine S/N U595629W And On 1343305 Engine S/N U610206X. Use Repair Kit 1306197 or Replace With Coolant Pump 1369042.

b First Used On 377323 Engine S/N U595630W And 1343305 Engine S/N U610207X. Use Repair Kit 1458268

c Included In Repair Kit 1458268

d Included In Bottom Gasket Kit 1371723

e Included In Top Gasket Kit 1371731 Last Used On 377323 And 1343305 Engine S/N U600869W

f Included In Top Gasket Kit 1391225 First Used On 377323 And 1343305 Engine S/N U600870W

h Cast Iron Connection P/N 1306208 Must Be Serviced With Gasket P/N 1345792 And Screw P/N 1307898, Or With Composite Connection P/N 1450388 Plus O-Ring P/N 1450389

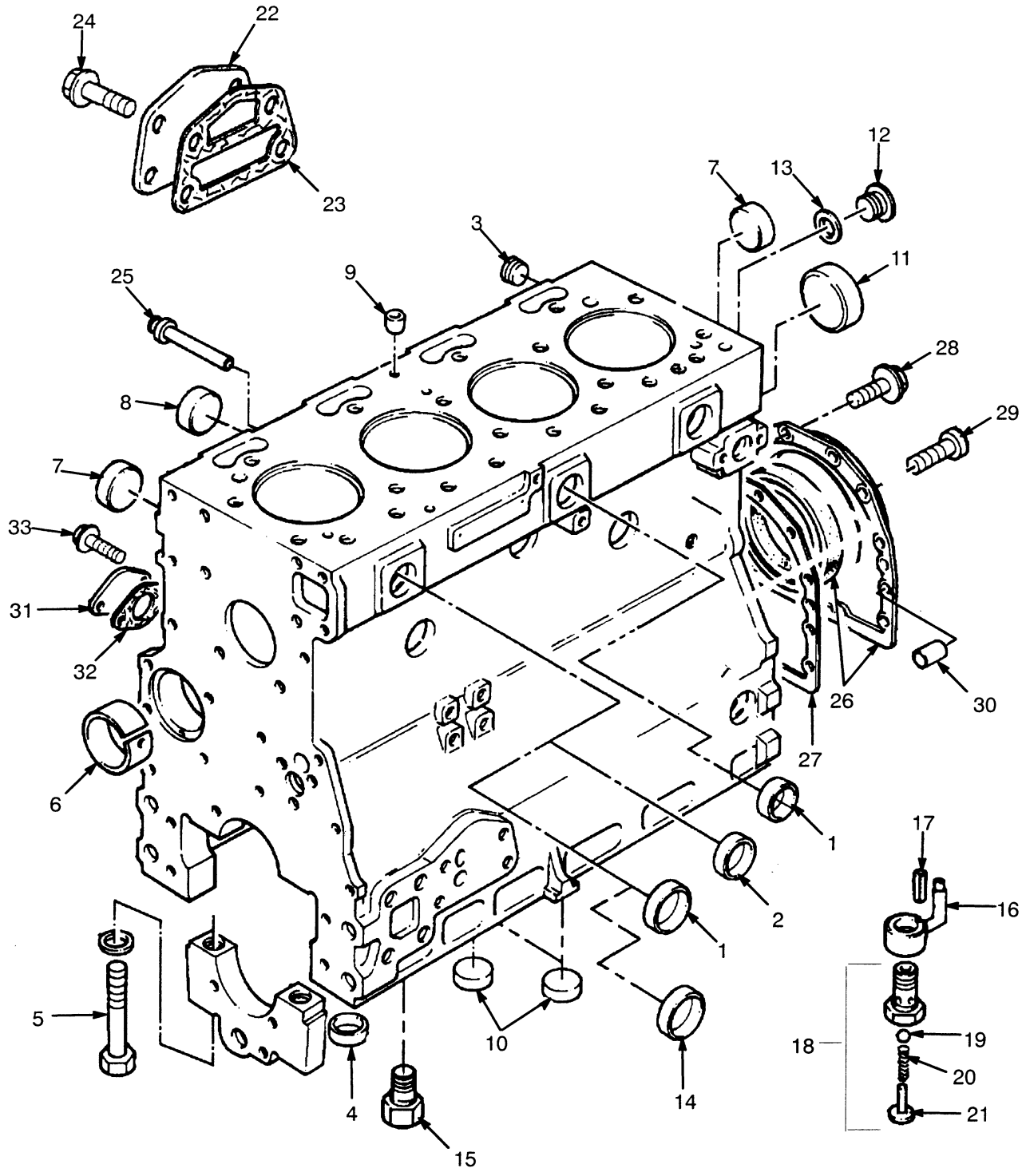
Note: Engine 1343305 Used Top Gasket Kit 1391225 Only.

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CYLINDER BLOCK (FIGURE 50)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



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CYLINDER BLOCK

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
		1456789	Short Engine	1
1	a	980727	Plug	6
2	a	349377	Plug	1
3	a	15304	Fitting	2
4	a	995576	Thimble	10
5	a	16794	Capscrew	10
6	a	1451625	Bushing	1
7	a	385531	Plug	6
8	a	161383	Plug	3
9	a	992393	Plug	1
10	a	245800	Plug	2
11	a	1388387	Plug	1
12	a	1456695	Plug	1
13	a	984632	Washer	1
14	a	1456694	Plug	1
15	a	1456698	Plug	3
16	a	1456697	Jet	1
17	a	1456696	Dowel	1
18	a	1311054	Valve	1
19	a	1311055	Ball	1
20	a	1311056	Spring	1
21	a	1311057	Retainer	1
22	a	1374982	Plate	1
23	ab	1345800	Gasket	1
24	a	1307893	Screw	4
25		365854	Plug	1
26		1369077	Housing Assy	1
26		350397	Oil Seal (Rear)	1
27	b	1379734	Gasket	1
28		386459	Screw	12
29		1382061	Screw	2
30		158139	Dowel	2
31		1305698	Plate	1
32	b	1345784	Gasket	1
33		1306349	Screw	1

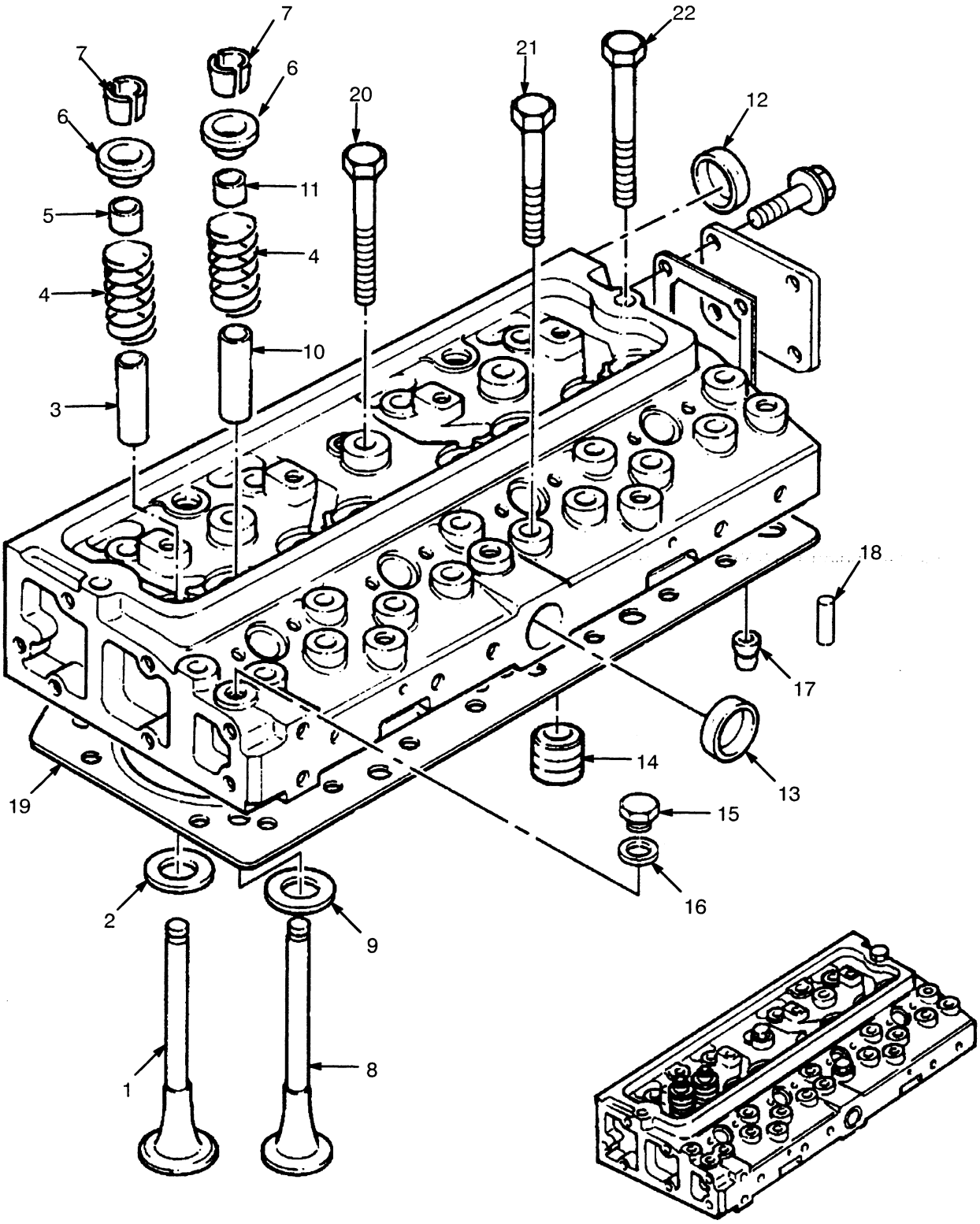
a Included In Cylinder Block Kit 1456693
b Included In Bottom Gasket Kit 1456509

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CYLINDER HEAD (FIGURE 51)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



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CYLINDER HEAD

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
1	a	1456702	Valve (Inlet)	4
2	a	1456707	Insert	4
3	a	1456703	Guide (Valve)	4
4	a	1456705	Spring	8
5	ab	1456706	Seal (Inlet)	4
6	a	1451633	Cap	8
7	a	1451636	Collet	16
8	a	1456709	Valve (Exhaust)	4
9	a	1456708	Insert	4
10	a	1456704	Guide (Valve)	8
11	ab	1451630	Seal	4
12	a	385531	Plug	4
13	a	980727	Plug	1
14	a	15314	Fitting	4
15	a	992025	Plug	1
16	a	986475	Washer	1
17	a	1454176	Dowel	2
18		1456711	Screw	2
19	b	1460567	Head Gasket	1
20		1456713	Screw	8
21		1456714	Screw	12
22		1456715	Screw	1

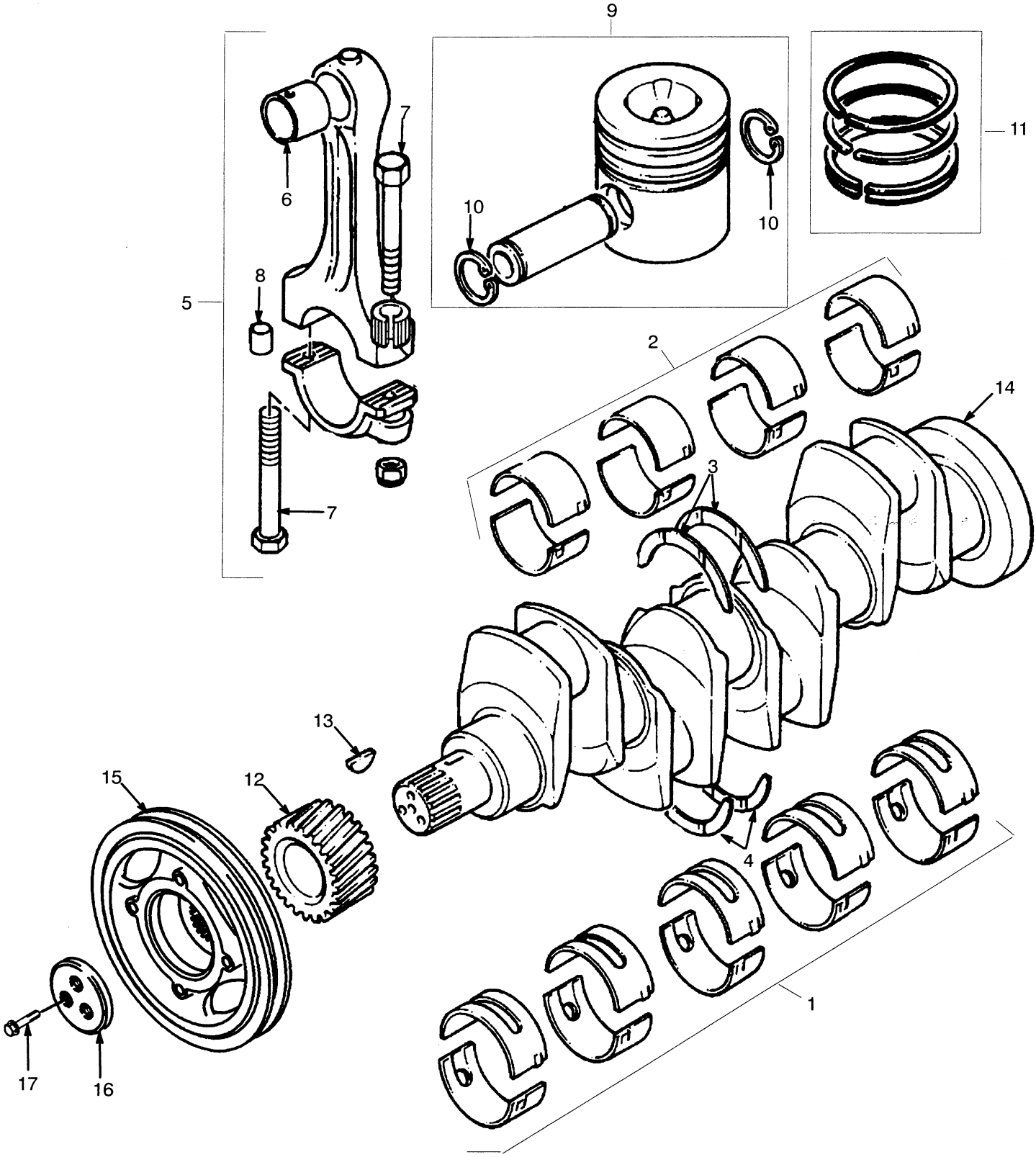
a Included In Cylinder Head Kit 1456716
b Included In Top Gasket Kit 1456508

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CRANKSHAFT AND PISTONS (FIGURE 52)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



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CRANKSHAFT AND PISTONS

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
1	ab	161425	Main Bearing (Standard)	1
1		161429	Bearing (Main, 0.010 in)	1
1		161430	Bearing (Main, 0.020 in)	1
1		161431	Bearing (Main, 0.030 in)	1
2	b	1305699	Bearing-Rod (Standard)	1
2		1305701	Bearing-Rod (0.010 in.)	1
2		1305702	Bearing-Rod (0.020 in)	1
2		1305703	Bearing-Rod (0.030 in)	1
3	ab	842799	Washer (Standard)	2
3		161296	Washer (0.007 in)	2
4	ab	842800	Washer (Standard)	2
4		161297	Washer (0.007 in)	2
5		1451601	Connecting Rod Kit	4
6		1451602	Bush	1
7		161433	Bolt	2
8		161434	Dowel Pin	2
9		1456700	Piston Kit (Standard)	4
9		1461713	Piston Kit (0.5 mm)	4
9		1461714	Piston Kit (1.0 mm)	4
10		1451606	Snap Ring	2
11		1456701	Kit-Piston Ring (Standard)	4
11		1461715	Kit-Piston Ring (0.5 mm)	4
11		1461716	Kit-Piston Ring (1.0 mm)	4
12		1305706	Gear	1
13		99610	Key	1
14		1456699	Crankshaft Assy	1
15		1306193	Pully	1
16		1306194	Block	1
17		302713	Screw	3

a Crankshaft/Bearing Includes Standard Size Bearings And Thrust Washers

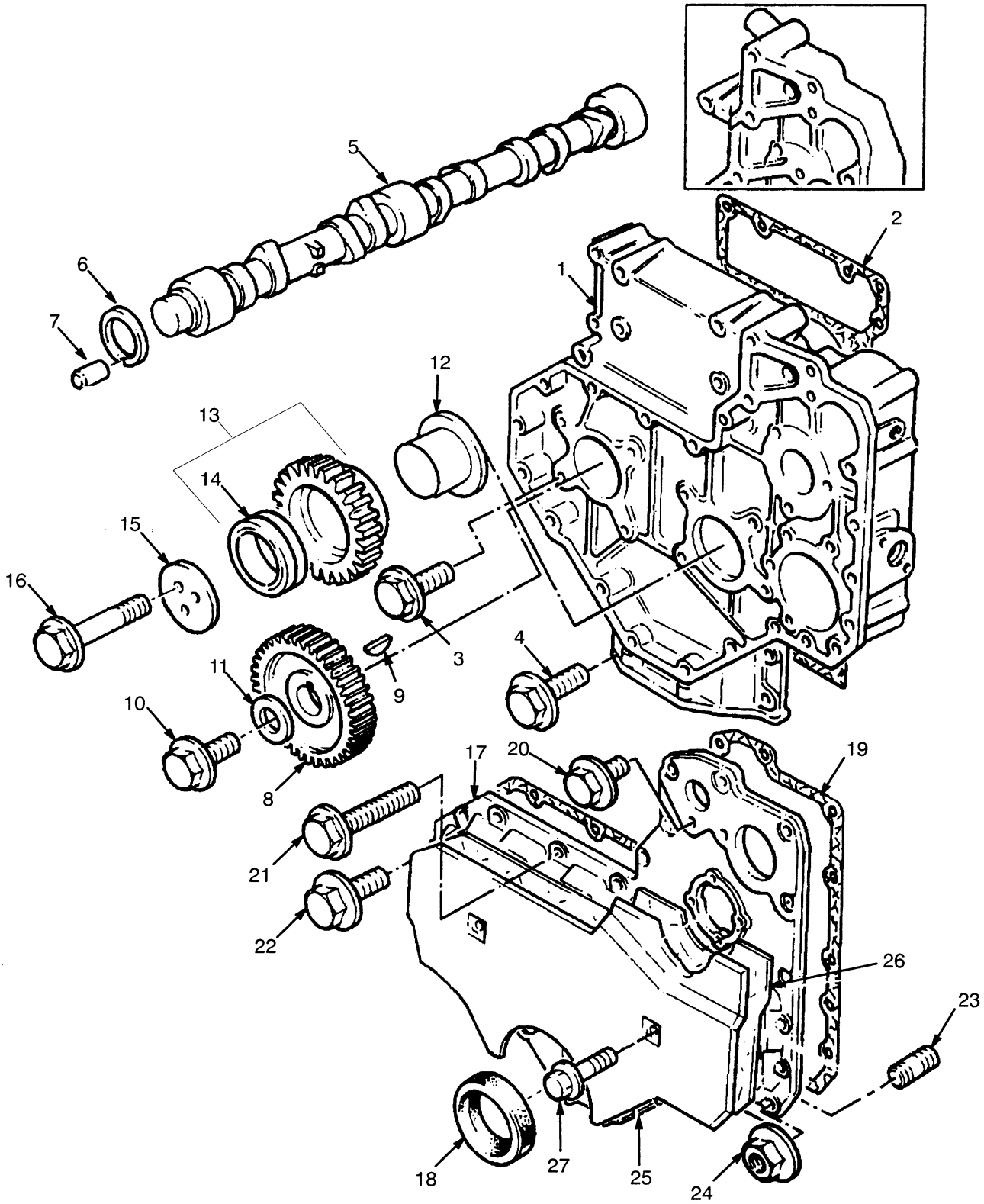
b Included With Crankshaft Assy

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TIMING GEAR (FIGURE 53)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



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TIMING GEAR

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
1		1456721	Case	1
2	a	1345787	Gasket	1
3		386459	Screw	8
4		1306354	Screw	4
5		1456722	Camshaft	1
6		303758	Washer	1
7		298096	Dowel	1
8		1382481	Gear	1
9		99610	Key (Woodruff)	1
10		1328565	Screw	1
11		1306364	Washer	1
12		229875	Hub (Idler Gear)	1
13		1306030	Gear	1
14		983484	Bushing	1
15		1382479	Plate	1
16		1306356	Screw	3
17		1456723	Cover	1
18		350399	Seal	1
19	a	1456724	Gasket	1
20		1306357	Screw	6
21		1306358	Screw	1
22		1306362	Screw	6
23		1306369	Stud	2
24		1306359	Nut	2
25		1451650	Shield	1
26		1451651	Damper	1
27		1306361	Screw	2

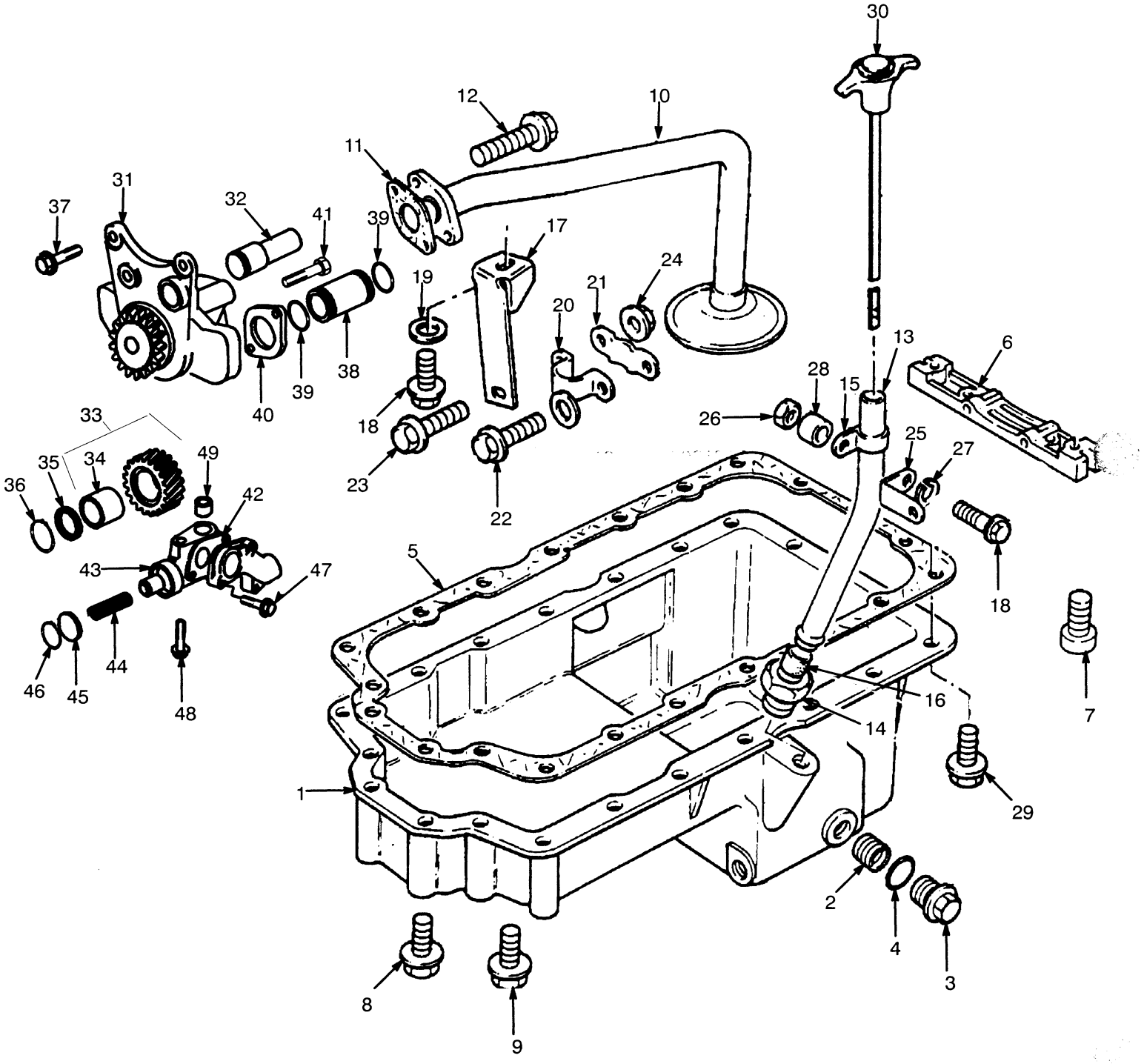
a Included In Bottom Gasket Kit 1456509

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OIL PAN AND PUMP (FIGURE 54)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



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OIL PAN AND PUMP

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
1		1306137	Sump	1
2		266465	Insert	2
3		377976	Plug	2
4		1306374	O-Ring	2
5	a	1371717	Gasket	1
6		1450136	Bridge	1
7		1307875	Screw	2
8		1318965	Screw	6
9		386459	Screw	12
10		1306140	Pipe	1
11		1344921	Gasket	1
12		1307879	Screw	2
13		1385702	Tube	1
14		1307880	Nut	1
15		1386142	Clip	1
16		1306143	Olive	1
17		1306146	Bracket	1
18		1307881	Screw	2
19		1305766	Washer	1
20		1306147	Clip	1
21		1306148	Plate	1
22		1307882	Screw	1
23		1307883	Screw	1
24		1307884	Nut	1
25		1306176	Bracket	1
26		1307887	Nut	1
27		293780	Washer	1
28		245781	Spacer	1
29		1307894	Screw	1
30		1305701	Dipstick	1
31		1306039	Oil Pump	1
32		1380755	Shaft	1
33		1306040	Gear	1
34		1306041	Bush	1
35		385847	Washer	1
36		328047	Snap Ring	1
37		1306362	Screw	3
38		1306047	Pipe	1
39		1306363	O-Ring	2
40		1306043	Flange	1
41		1306358	Screw	2
42		1305494	Relief Valve	1
43		301749	Plunger	1
44		1306047	Spring	1
45		301751	Cap	1
46		1306328	Snap Ring	1
47		1306367	Screw	3
48		1306368	Screw	1
49		1454315	Thimble	1

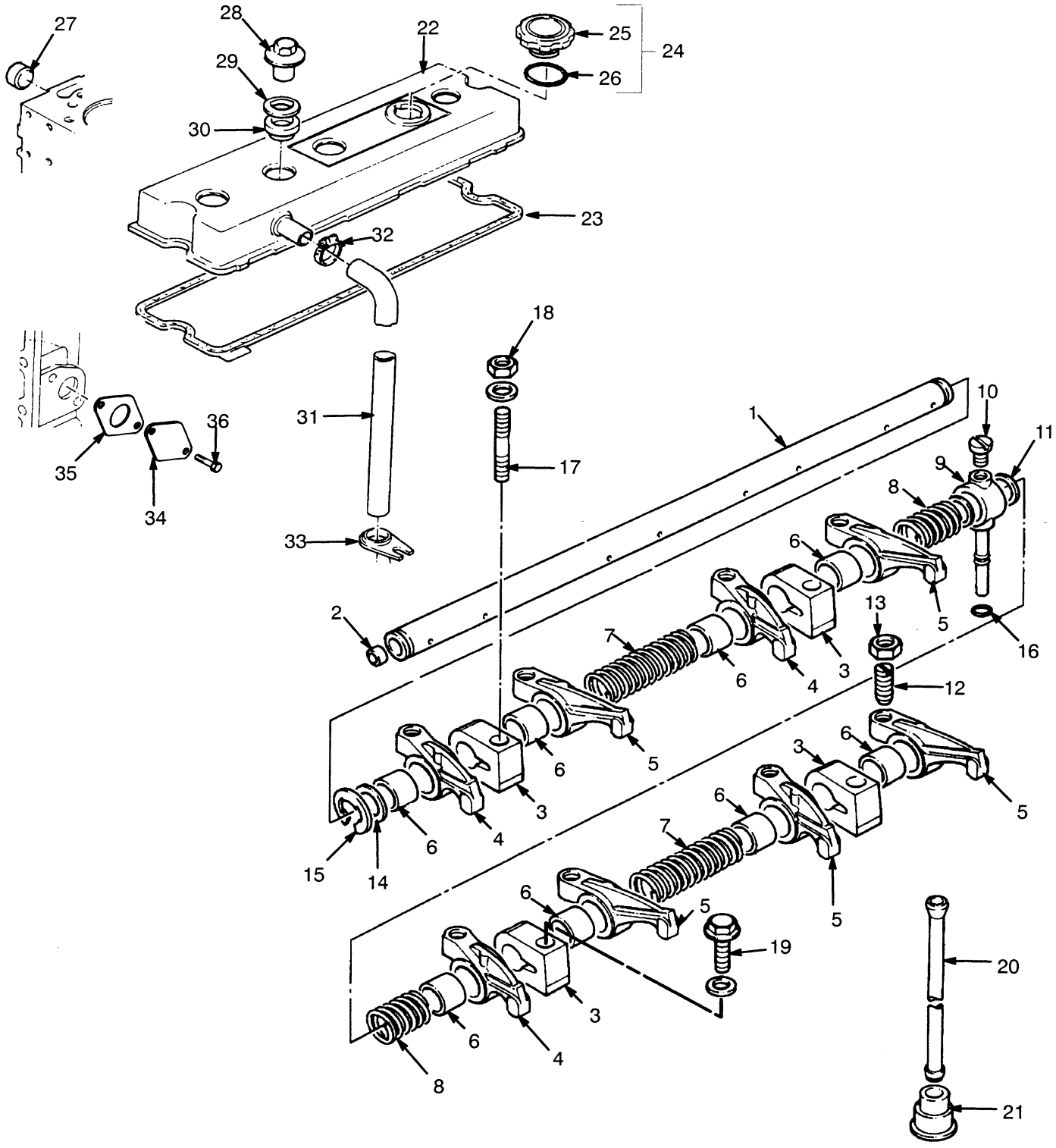
a Included In Bottom Gasket Kit 1456509

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VALVE COVER AND ROCKER SHAFT (FIGURE 55)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



VALVE COVER AND ROCKER SHAFT

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
		1456717	Rocker Shaft Assy	1
1		1456718	Rocker Shaft	1
2		990429	Plug	2
3		1370947	Bracket	4
4		1451645	Rocker Arm, LH	4
5		1451643	Rocker Arm, RH	4
6		1451644	Bushing	3
7		99722	Spring	2
8		99723	Spring	2
9		1374980	Connection	1
10		1370948	Screw	1
11		367394	Shim	2
12		1466859	Screw	8
13		15026	Nut	8
14		1451642	Washer	2
15		99725	Snap Ring	1
16	a	158187	Olive (Rubber)	1
17		1306351	Stud	3
18		1370949	Nut	3
19		1306353	Screw	1
20		997728	Rod	8
21		224248	Tappet	8
22		1456738	Cover Assy	1
23	a	1456741	Gasket	1
24		1391246	Cap Assy	1
25		....	Cap	1
26		1380247	O-Ring	1
27		161383	Plug	1
28		1380763	Nut	3
29		15125	Washer	3
30		1380245	Seal	3
31		1315496	Pipe	1
32		1380250	Clip	1
33		301785	Bracket	1
34		1306186	Plate	1
35	b	1380251	Gasket	1
36		386459	Screw	2

a Included In Top Gasket Kit 1456508

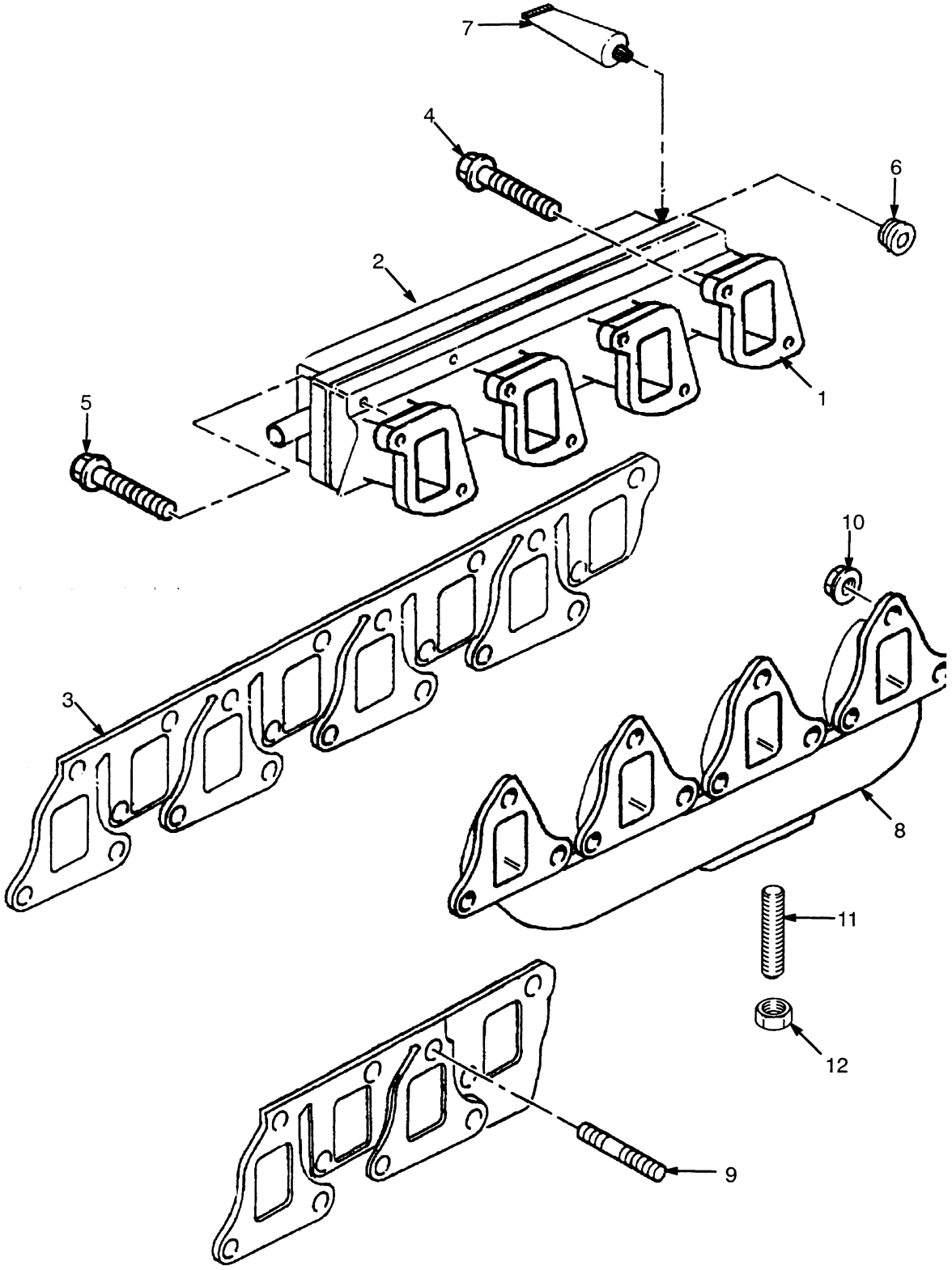
b Included In Bottom Gasket Kit 1456509

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MANIFOLDS (FIGURE 56)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942



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MANIFOLDS

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942

REF		PART NO.	NAME OF PART	QTY
		1453203	Engine	1
1		1456749	Intake Manifold	1
2		1460562	Manifold	1
3	a	1456751	Gasket	1
4		1456752	Screw	8
5		1456753	Screw	8
6		982155	Plug	1
7		1456754	Sealant	AR
8		1456755	Manifold (Exhaust)	1
9		1307918	Stud	12
10		1456756	Nut	12
11		1307877	Stud	3
12		1456370	Nut	3

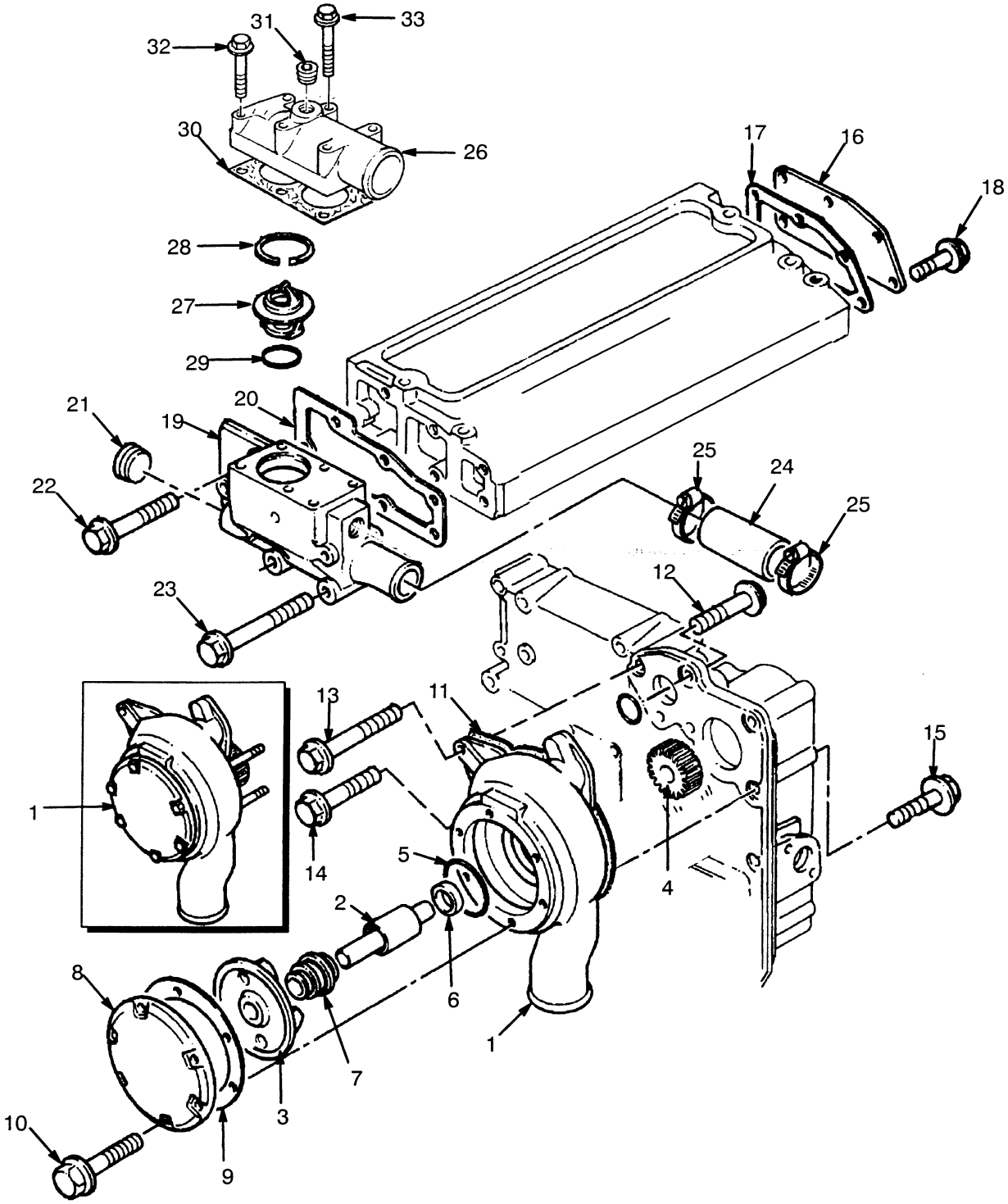
a Included In Top Gasket Kit 1456508

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COOLANT PUMP (FIGURE 57)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942, LAST USED ON ENGINE S/N U892125D



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WATER PUMP

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005D-11942, LAST USED ON ENGINE S/N U892125D

REF		PART NO.	NAME OF PART	QTY
		1453205	Engine	1
1		1460454	Water Pump (Before 6/99)	1
1	c	1465895	Water Pump (6/99 and Up)	1
1		....	Body	1
2		....	Shaft	1
3		....	Impeller	1
4		....	Gear	..
5		....	Seal	1
6		....	Seal	1
7		....	Seal	1
8		....	Cover	1
9		....	Gasket	1
10		....	Screw	6
11	b	1451733	Gasket	1
12		1307908	Screw	4
13		1315497	Screw	1
14		1307894	Screw	3
15		1307909	Screw	2
16		1456742	Plate	1
17	a	1451739	Gasket	1
18		1307881	Screw	3
19		1465171	Housing	1
20	a	1451735	Gasket	1
21		15962	Fitting	1
22		1318968	Screw	3
23		1307898	Screw	3
24		1456746	Hose	1
25		1456747	Clip	2
26		1451741	Connection	1
27		1456745	Thermostat (180°)	1
28		1451738	Ring	1
29	a	1451737	O-Ring	1
30	a	1451742	Gasket	1
31		349378	Plug	1
32		1318921	Screw	2
33		386459	Screw	2

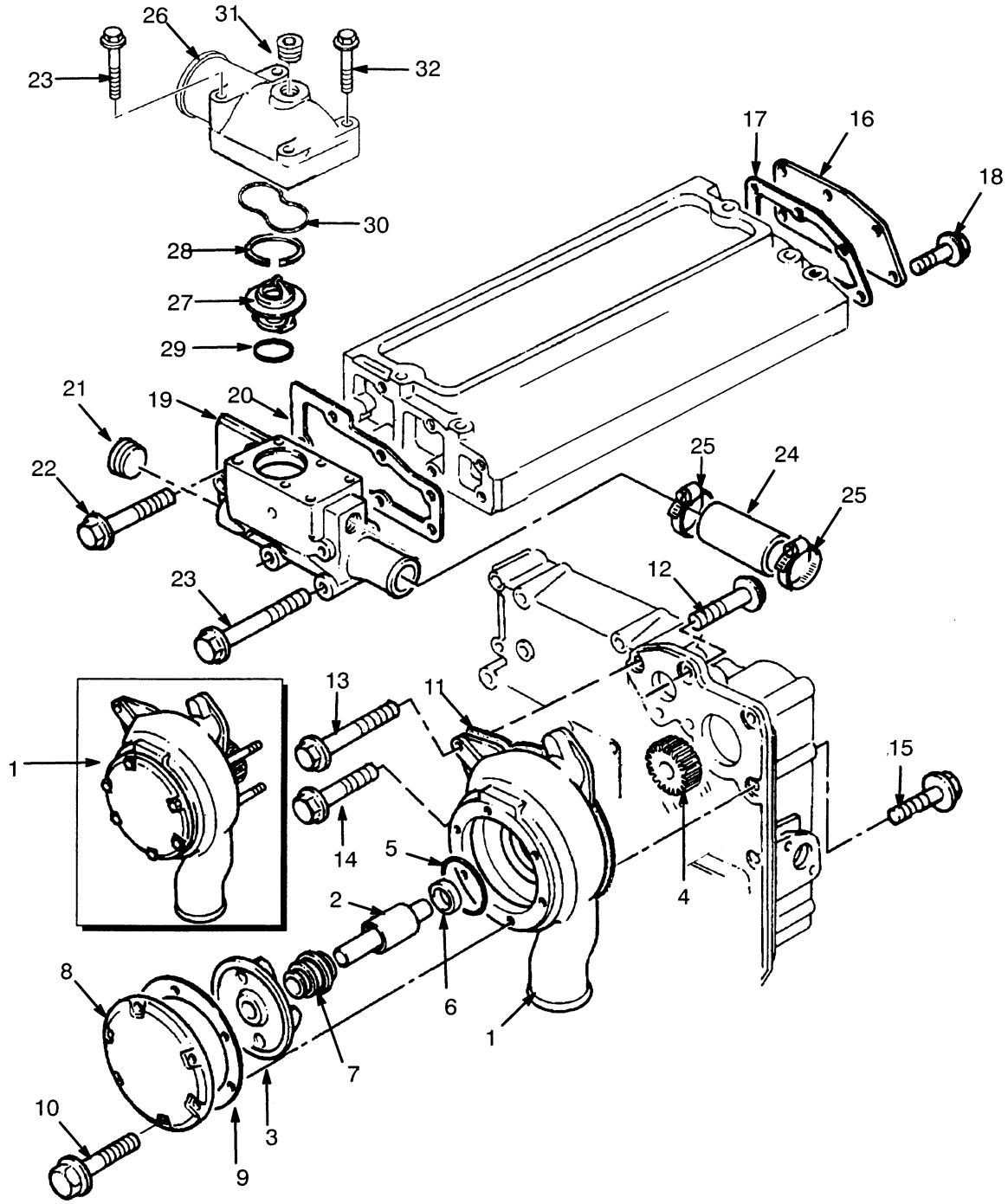
a Included In Top Gasket Kit 1456508
b Included In Bottom Gasket Kit 1456509
c Repair And Replace Gasket With Kit 1465896

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WATER PUMP (FIGURE 58)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON ENGINE S/N U892126D



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WATER PUMP

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON ENGINE S/N U892126D

REF		PART NO.	NAME OF PART	QTY
		1453205	Engine	1
1	c	1465895	Water Pump	1
1		....	Body	1
2		....	Shaft	1
3		....	Impeller	1
4		....	Gear	..
5		....	Seal	1
6		....	Seal	1
7		....	Seal	1
8		....	Cover	1
9		....	Gasket	1
10		....	Screw	6
11	b	1451733	Gasket	1
12		1307908	Screw	4
13		1315497	Screw	1
14		1307894	Screw	3
15		1307909	Screw	2
16		1456742	Plate	1
17	a	1451739	Gasket	1
18		1307881	Screw	3
19		1465171	Housing	1
20	a	1451735	Gasket	1
21		15962	Fitting	1
22		1318968	Screw	3
23		1307898	Screw	3
24		1456746	Hose	1
25		1456747	Clip	2
26		1465803	Connection Assy	1
27		1456745	Thermostat (180°)	1
28		1465812	Ring	1
29		1451737	O-Ring	1
30		1465810	O-Ring	1
31		1465811	Plug	1
32		1306358	Screw	2

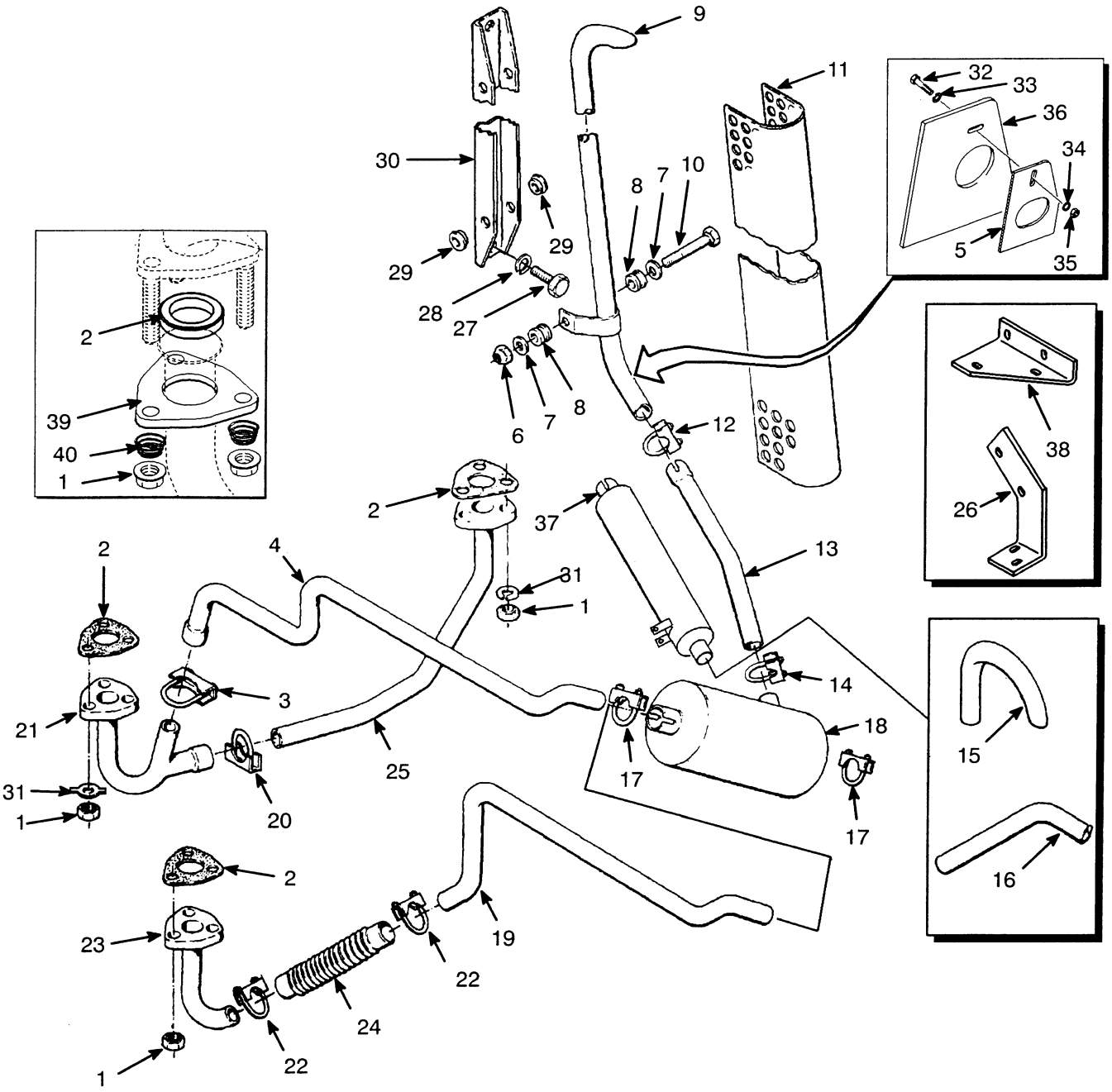
a Included In Top Gasket Kit 1456508

b Included In Bottom Gasket Kit 1456509

c Repair And Replace Gasket With Kit 1465896

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EXHAUST (FIGURE 59)



EXHAUST

KEY:
A: Gasoline & LPG Counterweight Exhaust
B: Diesel Counterweight Exhaust
C: Gasoline & LPG Overhead Exhaust
D: Diesel Overhead Exhaust

Ref		Part No.	Name Of Part	QTY A	B	C	D
1	g	16526	Nut	12	..	12	..
1	h	192077	Nut	6	..	6	..
1		1306370	Nut	..	3	..	3
2	g	88145	Gasket	2	..	2	..
2	h	1338258	Seal Assembly	2	..	2	..
2	k	1355319	Gasket	..	1	..	1
2	m	1329525	Gasket	..	1	..	1
3		30370	Clamp	1	..	1	..
4		352899	Exhaust Pipe	1	..	1	..
5	b	1343310	Plate (Cover, Without Cab)	..	..	1	1
5	a	1361673	Plate (Cover, Without Cab)	..	..	1	1
6		313828	Nut	..	..	4	4
7		320157	Washer	..	..	4	4
8		292883	Step Bushing	4	4	..	..
8		328385	Grommet (Without Cab)	..	..	4	4
9		1456615	Exhaust Pipe (Without Cab)	..	..	1	1
9	bc	1456612	Exhaust Pipe	..	..	1	1
9	a	1352698	Exhaust Pipe (Without Cab)	..	..	1	1
10		292512	Capscrew	..	..	2	2
10	a	136750	Capscrew (Without Cab)	..	..	2	2
11	b	305488	Shield (Without Cab)	..	..	1	1
11	bc	300101	Shield (With Cab)	..	..	1	1
11	a	1356975	Exhaust Shield (Without Cab)	..	..	1	1
11	ac	1361665	Exhaust Shield (With Cab)	..	..	1	1
12		30368	Clamp	..	..	1	1
13	b	1456617	Exhaust Pipe	..	..	1	1
13	a	1356977	Exhaust Pipe (Without Cab)	..	..	1	1
13	ad	1352695	Exhaust Pipe (Without Cab)	..	..	1	1
13	ae	1352696	Exhaust Pipe (Without Cab)	..	..	1	1
14		30370	Clamp	1	1	1	1
15	d	353102	Tail Pipe	1	1	..	..
16	e	353103	Tail Pipe	1	1	..	..
17		30370	Clamp	2	2	2	2
18		353303	Muffler	1	1	1	1
18		1314219	Muffler (GS, DS, & LPS)	1	1	..	..
18	a	1337430	Muffler	..	..	1	1
19	ad	1358576	Exhaust Pipe (Without Cab)	..	..	1	..
19	ae	1358577	Exhaust Pipe (Without Cab)	..	..	1	..
19	ad	1352692	Exhaust Pipe (Without Cab)	..	..	..	1
19	ae	1352693	Exhaust Pipe (Without Cab)	..	..	..	1
20		68968	Clamp (Exhaust)	1	..	1	..
21	g	352901	Exhaust Pipe	1	..	1	..
21	h	1383248	Exhaust Pipe	1	..	1	..
22		63116	Clamp	..	2	..	2
23		377328	Exhaust Pipe	..	1	..	1
24		292841	Tube (Exhaust)	..	1	..	1
25	g	1330287	Exhaust Pipe	..	1	..	1
25	h	1383247	Exhaust Pipe	..	1	..	1
26	a	1367808	Bracket (Without Cab)	..	..	1	1
27	c	283149	Capscrew	..	..	2	2
28	c	292681	Lockwasher	..	..	2	2
29	ac	1356976	Spacer (Bushing, Without Cab)	..	..	4	4

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EXHAUST

KEY:
A: Gasoline & LPG Counterweight Exhaust
B: Diesel Counterweight Exhaust
C: Gasoline & LPG Overhead Exhaust
D: Diesel Overhead Exhaust

Ref		Part No.	Name Of Part	QTY A	B	C	D
30	c	1360158	Bracket	..	..	1	1
31	f	1369003	Lockplate	6	6	6	6
32		136681	Capscrew (Without Cab)	..	..	1	1
33		296418	Washer (Without Cab)	..	..	2	2
34		292681	Lockwasher (Without Cab)	..	..	1	1
35		191534	Nut	4	4	4	4
36		1361673	Plate (Cover, Without Cab)	..	..	1	1
36	a	1358582	Plate (Cover, Without Cab, Some Early Models)	..	..	1	1
37	a	1352276	Silencer (Without Cab)	..	..	1	1
38	ad	1352277	Bracket (Without Cab)	..	..	1	1
38	ae	1352691	Bracket (Without Cab)	..	..	1	1
39	h	1380805	Flange	1	..	1	..
39	h	1380806	Flange (Optional)	1	..	1	..
40	h	1380803	Spring	6	..	6	..

Ref	Part No.	Name Of Part	QTY A	B	C	D
a	With Noise Reduction					
b	Without Noise Reduction					
c	With Cab					
d	H70-80XL H90XLS					
e	H90-110XL					
f	Used On S/N G005D-2918 Thru G005D-7759 (Including S/N 7830-7832, 7834-7837 7840 And 7841) Except S/N G005D-7710					
g	Last Used On S/N G005D-7759 (Including S/N 7830-7832, 7834-7837 7840 And 7841) Except S/N G005D-7710					
h	First Used On S/N G005D-7760 (Except S/N 7830-7832, 7834-7837 7840 And 7841) And Includes S/N G005D-7710					
k	DSL 1004.4					
m	DSL 4.248.2					

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FUEL SYSTEM

AIR FILTER (Figure 85)
STANDARD ..... Page 166

AIR FILTER (Figure 86)
HEAVY DUTY GASOLINE AND LPG ..... Page 168

AIR FILTER (Figure 87)
HEAVY DUTY DIESEL ..... Page 170

CARBURETOR (Figure 67)
LPG
LAST USED ON S/N G005D-7759
(INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841),
EXCEPT S/N G005D-7710 ..... Page 138

CARBURETOR (Figure 68)
LPG
FIRST USED ON S/N G005D-7760
(EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841)
AND INCLUDES S/N G005D-7710 ..... Page 140

DUAL FUEL CONVERSION KIT (Figure 63)
GAS TO LPG ..... Page 130

FUEL (Figure 62)
LPG
FIRST USED ON S/N G005D-7760
(EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841)
AND INCLUDES S/N G005D-7710 ..... Page 128

FUEL SYSTEM (Figure 61)
LPG
LAST USED ON S/N G005D-7759
(INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841),
EXCEPT S/N G005D-7710 ..... Page 126

FUEL SYSTEM (Figure 65)
GASOLINE ..... Page 134

FUEL TANK (Figure 60)
GASOLINE ..... Page 124

FUEL TANK (Figure 64)
DIESEL ..... Page 132

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FUEL SYSTEM

FUEL TANK (Figure 66)
LPG ..... Page 136

GOVERNOR (Figure 69) ..... Page 142

HIGH PRESSURE FUEL INJECTION & PUMP (Figure 83)
WITHOUT LOW EMISSIONS
LAST USED ON S/N g005a-10666 ..... Page 162

HIGH PRESSURE FUEL INJECTION & PUMP (Figure 84)
WITH LOW EMISSIONS
FIRST USED ON S/N g005a-10667 ..... Page 164

LIFT PUMP (Figure 78)
DIESEL (Without LOW EMISSIONS)
LAST USED ON S/N g005a-10666 ..... Page 154

LIFT PUMP (Figure 79)
DIESEL (WITH LOW EMISSIONS)
FIRST USED ON S/N g005a-10667 ..... Page 155

LOCK-OFF FILTER (Figure 70)
LPG ..... Page 143

LOW PRESSURE FUEL INJECTION (Figure 81)
WITHOUT LOW EMISSIONS
LAST USED ON S/N G005A-10666 ..... Page 158

LOW PRESSURE FUEL INJECTION (Figure 82)
WITH LOW EMISSIONS
FIRST USED ON S/N G005A-10667 ..... Page 160

LPG CONVERTER (Figure 71)
LAST USED ON S/N G005D-2849 ..... Page 144

LPG CONVERTER (Figure 72)
USED ON S/N G005D-2850 THRU S/N G005D-11516 ..... Page 145

LPG CONVERTER (Figure 73)
FIRST USED ON S/N G005D-11517 ..... Page 146

THROTTLE BODY INJECTOR (Figure 74) ..... Page 148

THROTTLE LINKAGE (Figure 75) ..... Page 150

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FUEL SYSTEM

THROTTLE PEDAL (Figure 76)
OIL CLUTCH AND POWERSHIFT WITH
FORWARD/REVERSE LEVER ..... Page 152

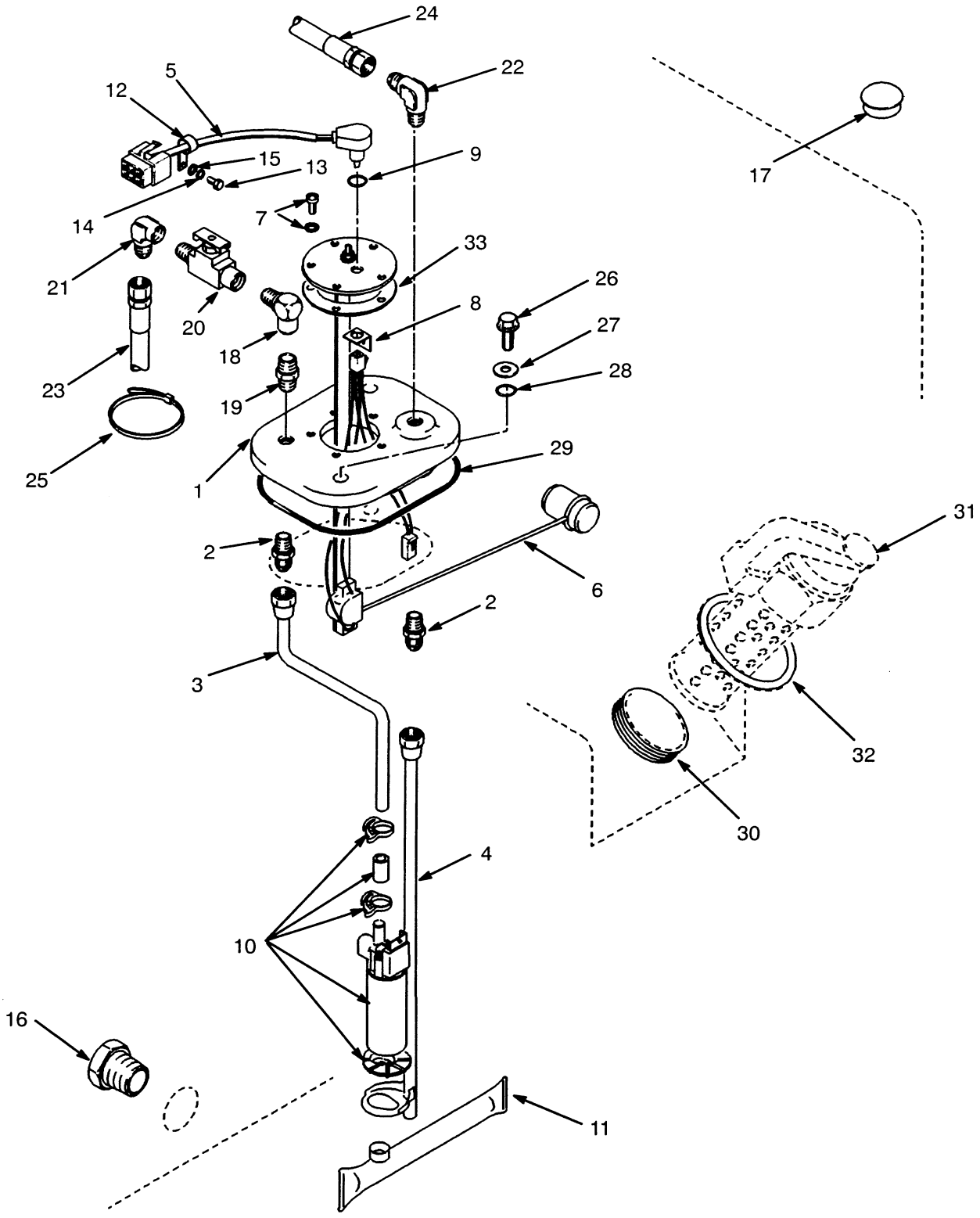
THROTTLE PEDAL (Figure 77)
POWERSHIFT WITH MONOTROL PEDAL ..... Page 153

WATER FILTER AND SEPARATOR (Figure 80)
DIESEL ..... Page 156

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FUEL TANK (FIGURE 60)

GASOLINE



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FUEL TANK

GASOLINE

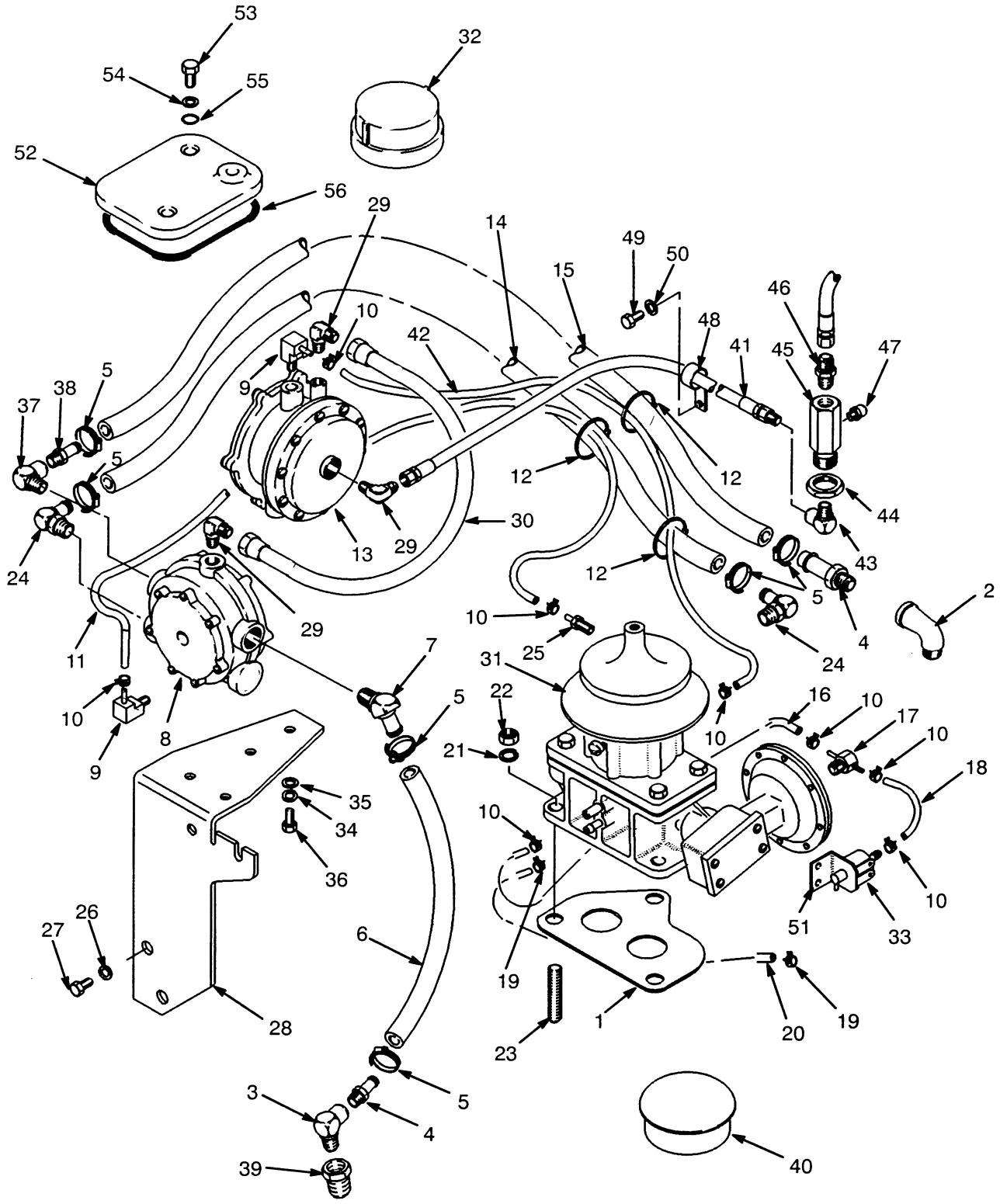
REF	PART NO.	NAME OF PART	QTY
1	1336169	Tank Cover	1
2	14303	Fitting	2
3	1330305	Tube	1
4	1331602	Pipe	1
5	1330383	Harness	1
6	1333842	Sender	1
6	1377072	Gasket	1
7	16708	Screw	5
7	350483	Seal Washer	5
8	1330326	Clip	1
9	1330325	O-Ring	1
10	1330324	Kit-Fuel Pump Repair	1
11	1327961	Fuel Strainer	1
12	188631	Clamp	1
13	287805	Capscrew	1
14	292681	Lockwasher	1
15	320157	Washer	1
16	14385	Fitting	1
17	1332607	Plug	1
18	17314	Fitting	1
19	16167	Fitting	1
20	16190	Shut-Off Valve	1
21	14372	Fitting	1
22	42213	Fitting	1
23	1333836	Hose (Supply)	1
24	1333837	Hose (Return)	1
25	2004005	Strap Clamp	2
26	329067	Screw	2
27	320157	Washer	2
28	353000	O-Ring	2
29	353106	Ring (Square)	1
30	298831	Cap	1
31	63899	Protectoseal Cap (Optional)	1
32	138880	Shim (.020 in Optional)	AR
33	1377072	Gasket	1

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FUEL SYSTEM (FIGURE 61)

LPG

LAST USED ON S/N G005D-7759 (INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841), EXCEPT S/N G005D-7710



FUEL SYSTEM

LPG

LAST USED ON S/N G005D-7759 (INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841), EXCEPT S/N G005D-7710

REF		PART NO.	NAME OF PART	QTY
1		1333806	Gasket	1
2		15337	Fitting	1
3		12818	Fitting	1
4		16156	Fitting	2
5		130845	Clamp	6
6		212355	Hose	1
7		1336135	Fitting	1
8		....	Converter Assembly	1
			☞ Figure 71 & Figure 72	
9		175347	Fitting	2
10		366473	Clamp	7
11		1336136	Hose	1
12		273775	Strap Clamp	4
13		....	Fuel Lock And Filter	1
			☞ Figure 70	
14		1336137	Hose	1
15		154594	Hose	1
16		1330396	Hose	1
17		346346	Fitting (Oil Clutch)	1
17	c	1374758	Fitting (Powershift)	1
17	d	1380601	Fitting (Powershift)	1
18		1360841	Hose	1
19		369815	Clamp	2
20		1330397	Hose	1
21		292681	Washer	3
22		15055	Nut	3
23		295308	Stud	3
24		201800	Fitting	2
25		191805	Fitting	1
26		292682	Washer	2
27		16598	Capscrew	2
28		1331622	Bracket	1
29		14358	Fitting	2
30		352781	Tube	1

REF		PART NO.	NAME OF PART	QTY
31		....	Carburetor	1
			☞ Figure 67	
32		17817	Cap	1
33		1345677	Governor Valve	1
34		292680	Lockwasher	4
35		320156	Washer	4
36		18460	Capscrew	4
37		16143	Fitting	1
38		138710	Fitting	1
39		12832	Fitting	1
40		1315411	Plug	1
41		113012	Hose	1
42		1336136	Hose	1
43		14358	Fitting	1
44		15034	Nut	1
45		1325033	Fitting	1
46		16134	Fitting	1
47		101809	Relief Valve	1
48	a	154278	Clamp	1
48	b	1327214	Clamp	1
49	a	292513	Capscrew	1
50	a	292682	Washer	1
51		1345676	Bracket	1
52		1320865	Cover	1
53		329067	Screw	2
54		320157	Washer	2
55		353000	O-Ring	2
56		353106	Square Ring	1

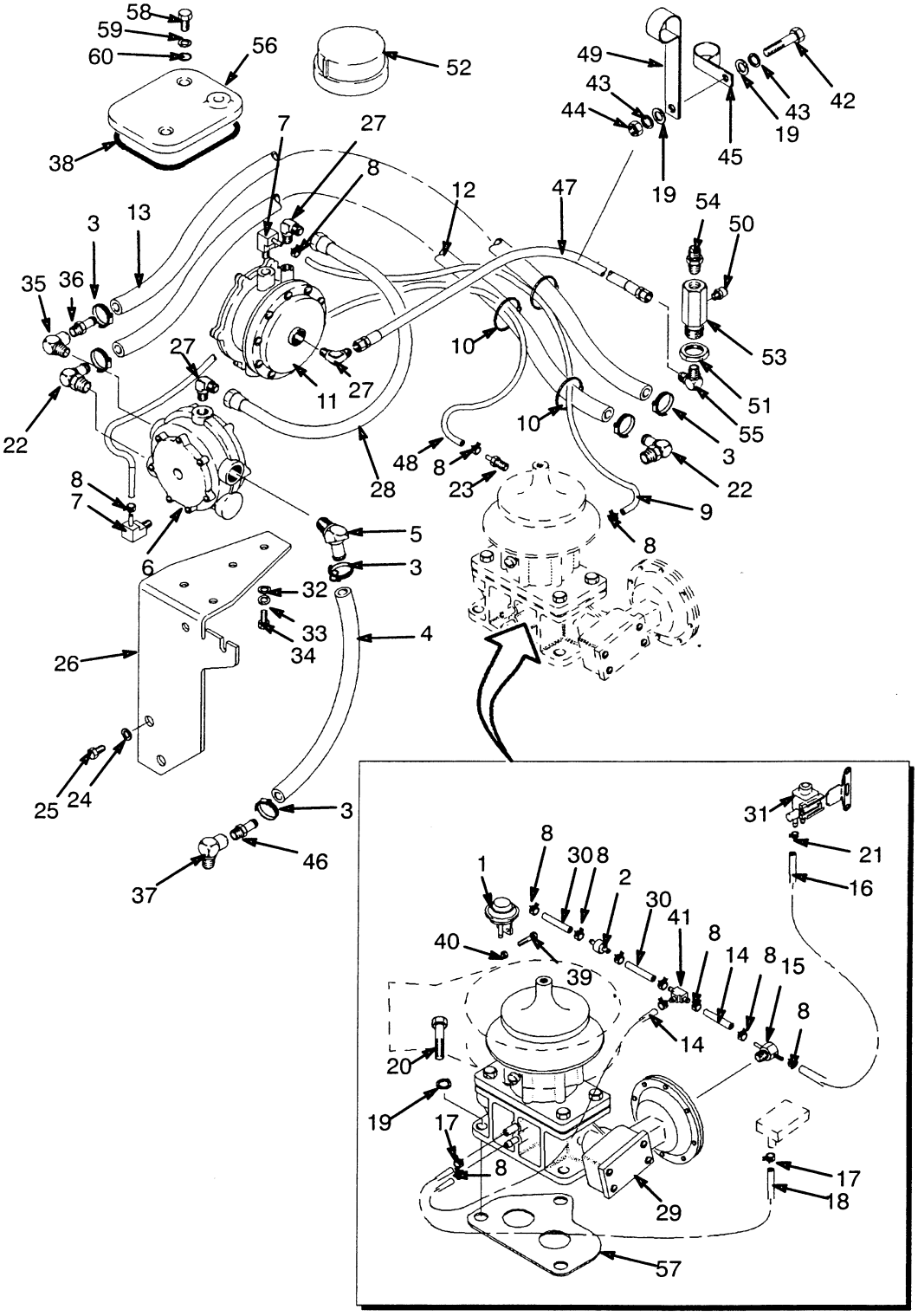
a Old Production
b Recent Production
c Last Used On S/N G005D-5019
d First Used On S/N G005D-5020

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FUEL (FIGURE 62)

LPG

FIRST USED ON S/N G005D-7760 (EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841) AND INCLUDES S/N G005D-7710



FUEL
LPG
FIRST USED ON S/N G005D-7760 (EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841) AND INCLUDES S/N G005D-7710

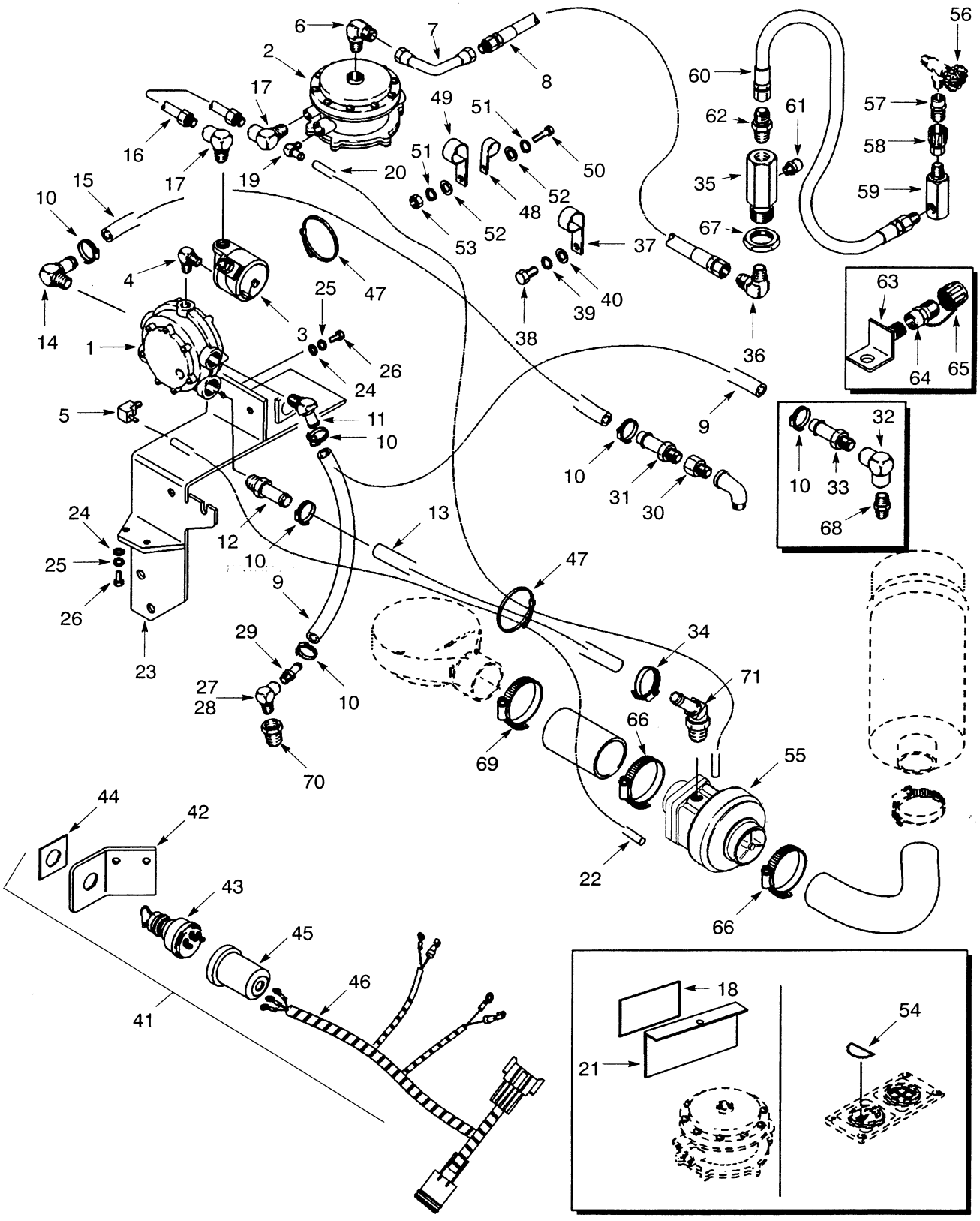
REF		PART NO.	NAME OF PART	QTY
1		1346872	Actuator	1
2		1350400	Valve	1
3		130845	Clamp	6
4	a	78462	Hose	1
4	b	164289	Hose	1
5	a	102898	Fitting	1
5	b	201808	Fitting	1
6		....	Converter Assy ☞ Figure 72	1
7		175347	Fitting	2
8		366473	Clamp	13
9		1336136	Hose	1
10		129563	Clamp	5
11		....	Fuel Lock & Filter ☞ Figure 70	1
12		1336137	Hose	1
13		125793	Hose	1
14		372002	Hose	2
15		346346	Fitting Special (LP/OC)	1
15		1380601	Fitting Special (LP/PS)	1
16		1360841	Hose	1
17		353310	Clamp	3
18		1330397	Hose	1
19		292681	Washer	5
20		18496	Capscrew	3
21		369815	Clamp	1
22		201800	Fitting	2
23		191805	Fitting	2
24		292682	Washer	2
25		16598	Capscrew	2
26		1383305	Bracket	1
27		14358	Fitting	2
28		352781	Tube Assembly	1
29		....	Carburetor Assembly ☞ Figure 68	1
30		1333808	Hose	2
31		1345677	Solenoid Valve	1
32		15154	Washer	4
33		15127	Washer	4
34		18460	Capscrew	4
35		16143	Fitting	1
36		138710	Fitting	1
37		1383267	Fitting Special	1
38		353106	Ring-Square	1
39		302244	Screw	2
40		316825	Nut	2
41		1383209	Tee Fitting	1
42		293615	Capscrew	1
43		296418	Washer	2
44		239503	Nut	1
45	a	178119	Clamp Insulated	1
45	b	128408	Clamp Insulated	1
46	a	222473	Fitting	1
46	b	141776	Fitting	1
47		113012	Hose Assembly	1
48		1336136	Hose	1
49		1327214	Clamp	1
50		101809	Relief Valve	1
51		15034	Nut	1
52		17817	Fitting	1
53		1361670	Bulkhead Fitting	1
54		16134	Fitting	1
55		14358	Fitting	1
56		1320865	Cover	1
57		1333806	Gasket	1
58		329067	Screw	2
59		320157	Washer	2
60		353000	O-Ring	2

a Last Used On S/N G005D-9451
b First Used On S/N G005D-9452

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DUAL FUEL CONVERSION KIT (FIGURE 63)

GAS TO LPG



DUAL FUEL CONVERSION KIT
GAS TO LPG

REF		PART NO.	NAME OF PART	QTY
1	a	....	Convertor	1
			☞ Figure 72	
2	a	....	Fuel Lock And Filter	1
			☞ Figure 70	
3	a	864745	Solenoid Valve	1
4	a	16841	Fitting	1
5	a	175347	Fitting	1
6	a	14358	Fitting	1
7		864853	Tube Assembly	1
8		864780	Hose Assembly	1
9	a	78462	Hose	1
10	a	130845	Clamp	3
11	a	16764	Fitting	1
12	a	16156	Fitting	1
13	a	864752	Hose	1
14	a	125305	Fitting	1
15	a	139919	Hose	1
16	a	864744	Tube Assembly	1
17	a	14273	Fitting	2
18	a	864779	Label	1
19	a	86851	Fitting	1
20	a	864751	Hose	1
21	a	1358327	Plate	1
22	a	372009	Hose	1
23	a	864749	Bracket	1
24	a	15127	Washer	4
25	a	15154	Washer	4
26	a	18460	Capscrew	4
27		273338	Thread Sealant	1
28	c	16116	Fitting	1
29	c	16764	Fitting	1
30	c	12845	Fitting	1
31	c	16156	Fitting	1
32	d	12817	Fitting	1
33	d	138710	Fitting	1
34		366473	Clamp	2
35	b	1325033	Fitting	1
36		14358	Fitting	1
37	c	154278	Clamp	1
38	c	292513	Capscrew	1
39	c	292682	Lockwasher	7
40	c	320159	Washer	1
41		864760	Fuel Selector Assembly	1
42		864761	Bracket	1
43		1369470	Switch	1
44		864763	Nameplate	1
45		864764	Boot	1
46		864735	Harness	1
47		129563	Strap Clamp	5
48	d	178119	Clamp	1
49	d	1327214	Clamp	1
50	d	293615	Capscrew	1
51	d	292681	Lockwasher	3
52	d	320157	Washer	4
53	d	239503	Nut	2
54		864740	Label	1
55		864753	Mixer Assembly	1
56		233908	Valve Assembly	1
57		124010	Fitting	1
58		97999	Fitting	1
59		1327554	Fitting	1
60		1335292	Hose Assembly	1
61	b	101809	Relief Valve	1
62	b	16134	Fitting	1
63		864736	Bracket	1
64		864737	Connector	1
65		1369737	Cap	1
66		112989	Clamp	2
67	b	15034	Nut	1
68	b	12831	Fitting	1
69		2033817	Clamp	1
70		1336135	Fitting	1
71		127852	Fitting	1

a Included With Lockoff And Regulator Assembly 864750

b Included With Bulkhead Fitting Assembly 1359673

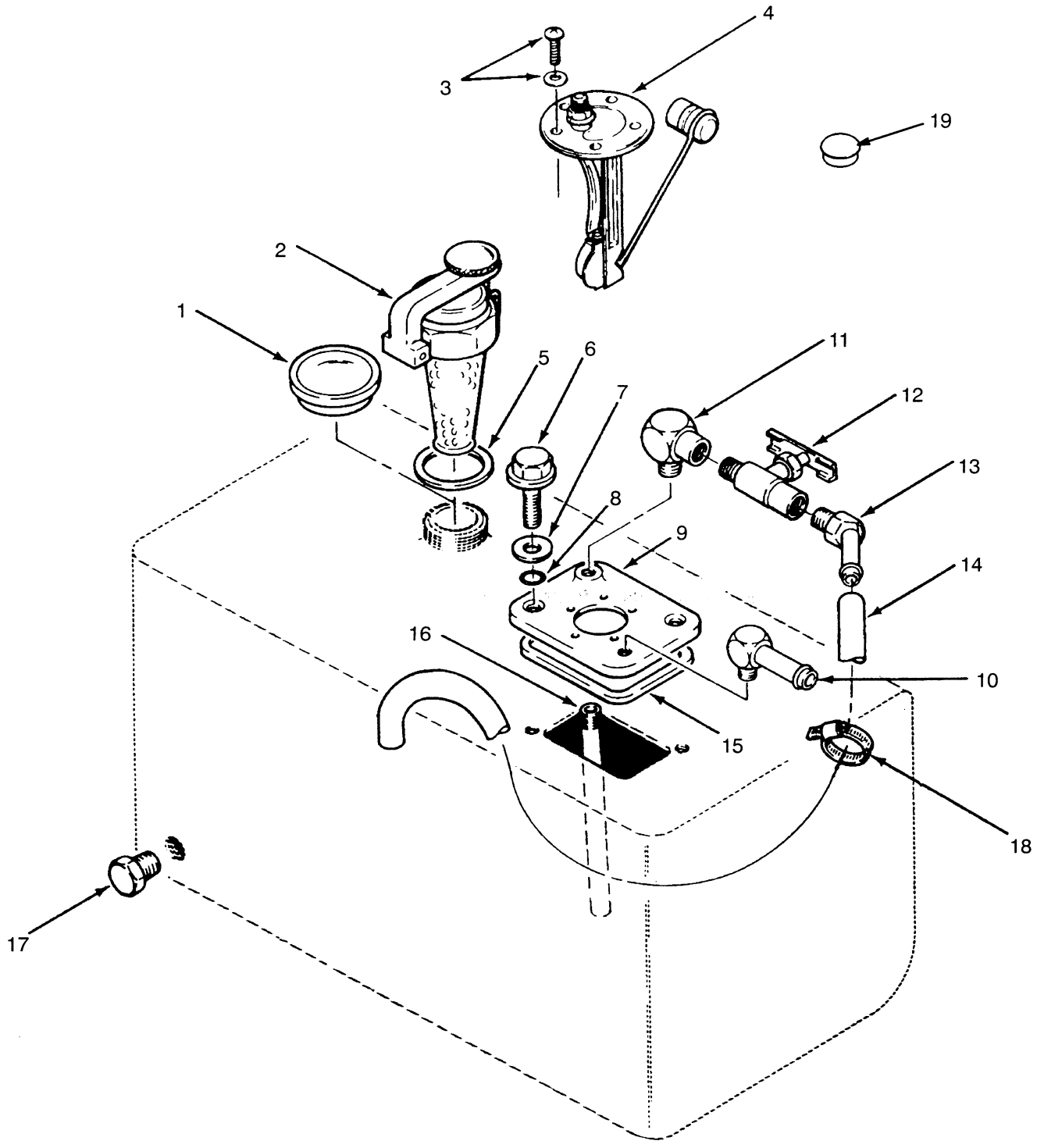
c For Use Up To Pre-1996 Model Engine Only

d For Use With 1996 And Up Engine Only

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FUEL TANK (FIGURE 64)

DIESEL



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FUEL TANK

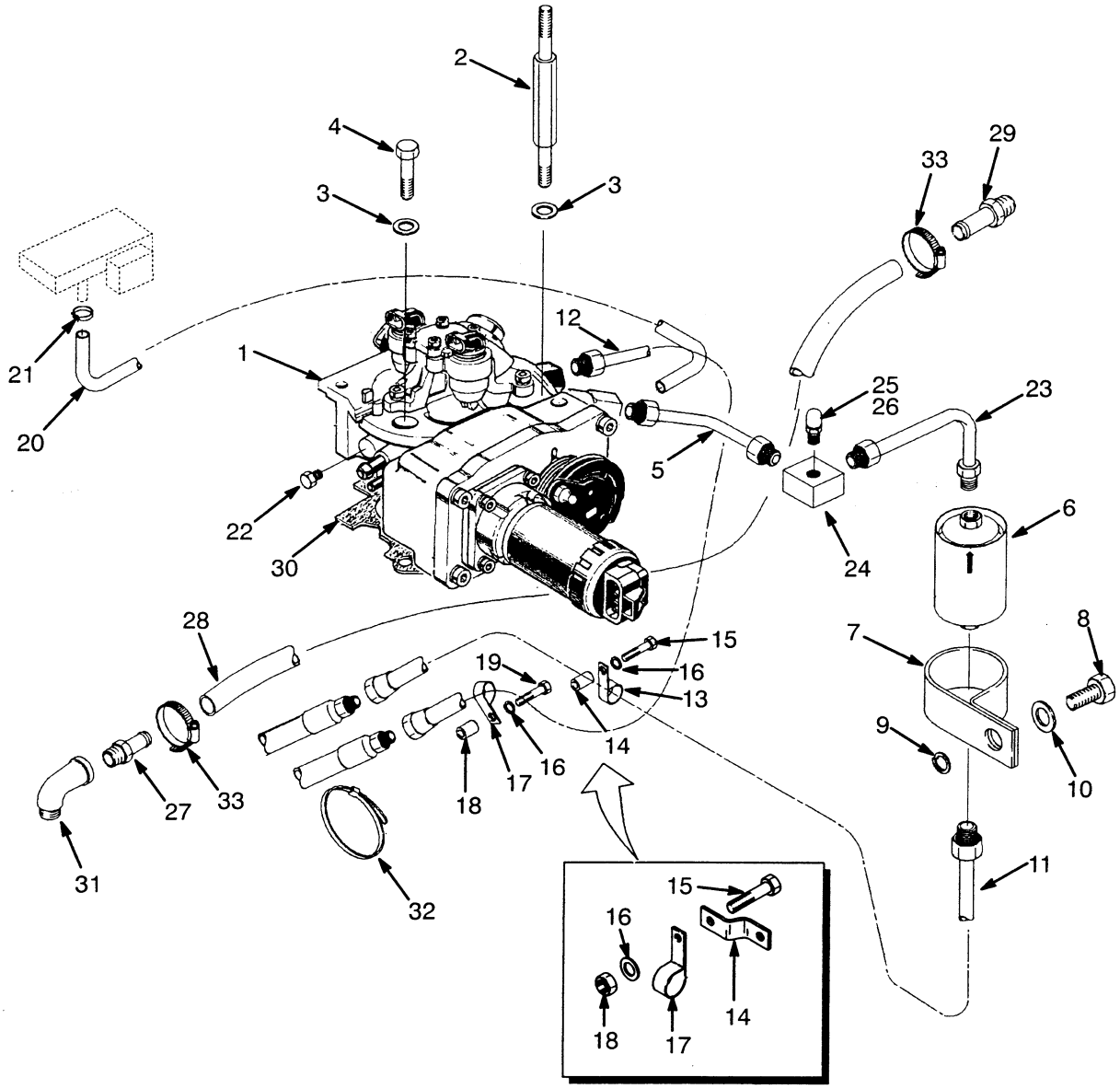
DIESEL

REF	PART NO.	NAME OF PART	QTY
1	298832	Cap	1
2	63899	Protectoseal Cap (Optional)	1
3	16708	Screw	2
3	350483	Seal/Washer	2
4	305594	Fuel Sender	1
5	138880	Shim (.020, Optional)	AR
6	329067	Screw	2
7	320157	Washer	2
8	353000	O-Ring	2
9	1350922	Cover	2
10	17343	Fitting	2
11	17736	Fitting	1
12	16190	Needle Valve	1
13	1316809	Fitting	1
14	1303194	Hose	1
15	353106	Seal	1
16	1320915	Pipe	1
17	14385	Fitting	1
18	168718	Clamp	4
19	1332607	Plug	1

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FUEL SYSTEM (FIGURE 65)

GASOLINE



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FUEL SYSTEM

GASOLINE

REF		PART NO.	NAME OF PART	QTY
1		....	Throttle Body Injector	1
			☞ Figure 74	
2		1327970	Stud	2
3		109919	Seal/Washer	3
4		16782	Capscrew	1
5		1339423	Tube Assembly	1
6		1330342	Fuel Filter	1
7		176451	Clamp	1
8		136681	Capscrew	1
9		320158	Washer	1
10		292681	Lockwasher	1
11	c	1333828	Tube	1
11	d	1383271	Tube	1
12	c	1333829	Tube	1
12	d	1383231	Tube	1
13		164488	Clamp	1
14	e	325463	Spacer (18 mm, Zinc)	1
14	f	1459978	Bracket	1
15	e	16816	Capscrew	1
15	f	176640	Capscrew	1
16	e	15156	Washer	2
16	f	320157	Washer	2
17		198675	Clamp (Some Early Models)	1
18	e	1337382	Spacer (10 mm, Zinc)	1
18	f	302400	Nut	1
18	e	1345979	Spacer (10 mm, Steel)	1
19		16828	Capscrew	1
20		1333807	Silicon Hose	1
21		353310	Clamp	1
22		1333825	Plug	2
23	c	1339424	Tube Assembly	1
23	d	1383230	Tube Assembly	1
24		1339425	Fitting	1
25		1345991	Pressure Valve Assembly	1
26		1339438	Seal/Washer	1
27	c	222473	Fitting	1
28	a	1358729	Hose Assembly	1
28	bc	1367710	Hose Assembly	1
29	c	17177	Fitting (45°)	1
30		1333806	Gasket	1
31	c	15337	Fitting	1
32	c	2004005	Strap Clamp	2
33	c	130845	Clamp	2

a Used On S/N G005D-1914

b Used On S/N G005D-1915

c Last Used On S/N G005D-7759 (Including S/N 7830-7832, 7834-7837, 7840 And 7841) Except S/N G005D-7710

d First Used On S/N G005D-7760 (Except For S/N 7830-7832, 7834-7837, 7840 And 7841) And Includes S/N G005D-7710

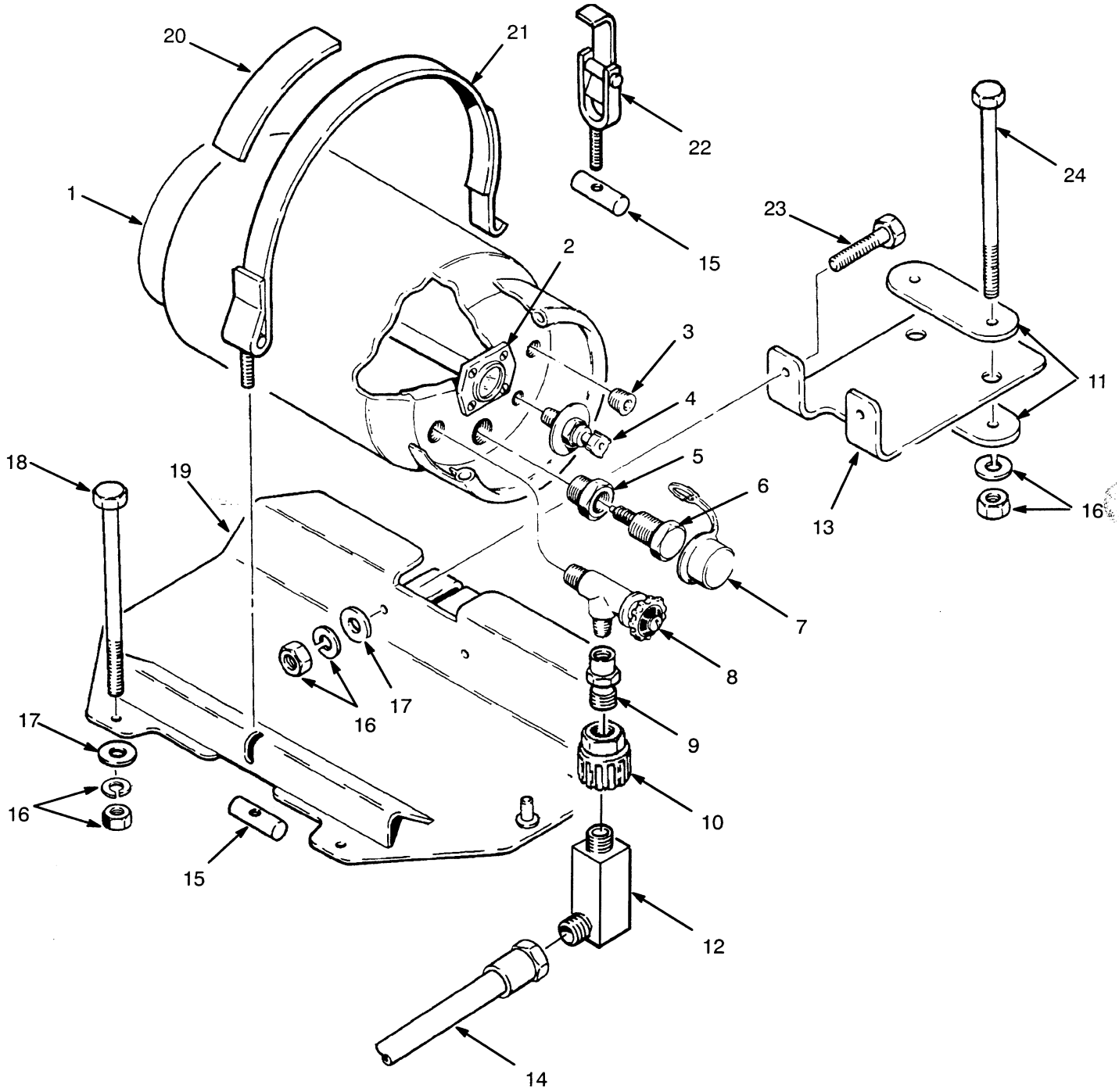
e Last Used On S/N G005D-13153

f First Used On S/N G005D-13154

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FUEL TANK (FIGURE 66)

LPG



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FUEL TANK

LPG

REF		PART NO.	NAME OF PART	QTY
1		125789	Tank	1
2	a	344230	Float Gauge	1
2	b	1332401	Gauge	1
3		15963	Fitting	1
4		197038	Gauge	1
4	c	344232	Gauge With Dip Tube	1
5		344228	Adapter	1
6		200170	Relief Valve	1
7		200172	Rain Cap	1
8		233908	Valve	1
9		124010	Coupler	1
10		97999	Disconnect	1
11		352753	Spacer	2
12		1327554	Fitting	1
13		353024	Bracket (H70-80XL)	1
13		353025	Bracket (H90-100XL)	1
13		1300745	Bracket (H90XLS)	1
13		353317	Bracket (H110XL)	1
14		1325037	Hose (Factory)	1
14		1335292	Kit-Hose (Field Conversion)	1
15		147294	Nut	2
16		136692	Nut	6
16		292682	Lockwasher	6
17		296420	Washer	4
18		292525	Capscrew	2
19		1327216	Bracket (LPG)	1
20		341788	Bumper	1
21		306008	Strap	1
22		196297	Latch	1
23		287860	Capscrew	2
24		176801	Capscrew (H70-100XL, H90XLS)	2
24		334421	Capscrew (H110XL)	2

a Screw In Type, $1\ ^{-1}/_{4}$ NPT

b Screw In Type, $^{3}/_{4}$ NPT

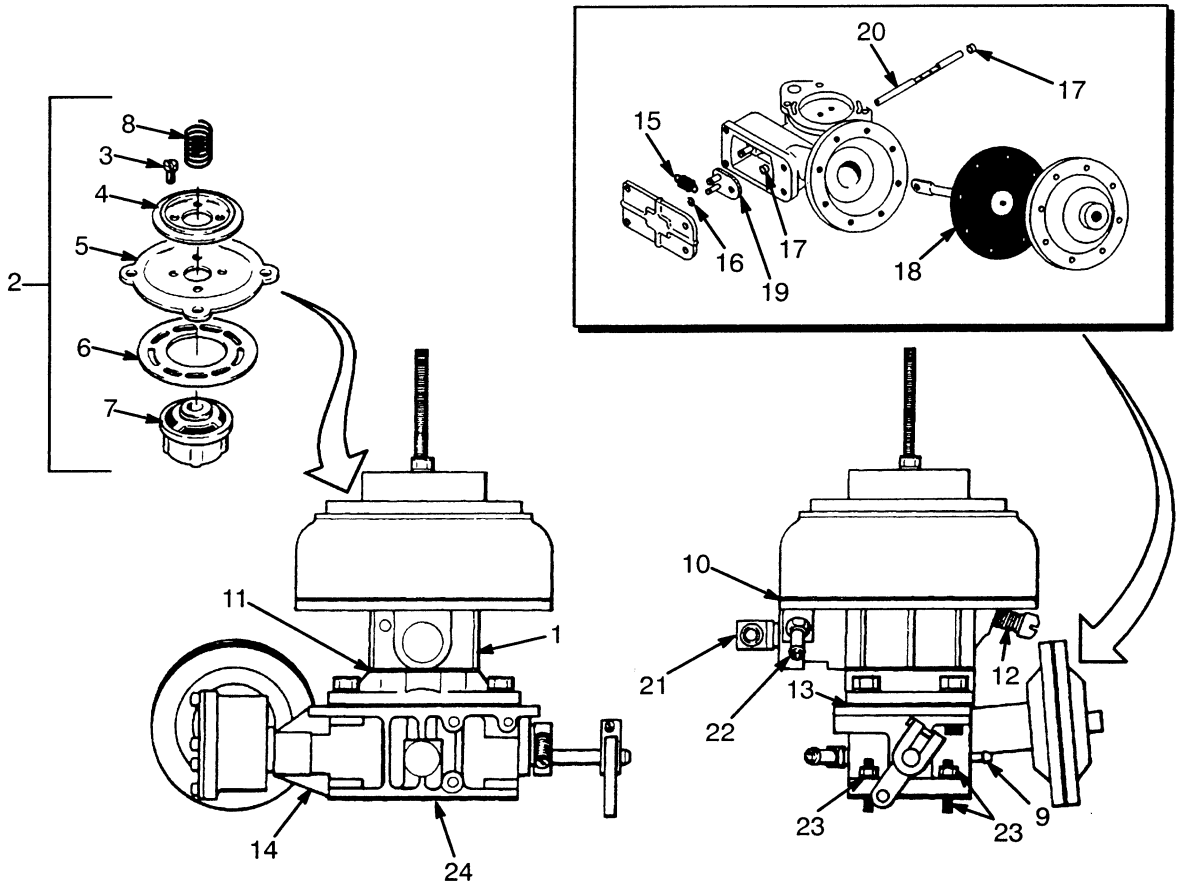
c Optional With Removable Dip Tube

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CARBURETOR (FIGURE 67)

LPG

LAST USED ON S/N G005D-7759 (INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841), EXCEPT S/N G005D-7710



PARTS-SERVICE GRAM	
Item	Gram
Carburetor	E-B-26
Carburetor	E-B-27

REF	PART NO.	NAME OF PART	QTY
	1331600	Carburetor (LPG)	1
1	374712	Mixer Assembly	1
2	204782	Valve/Diaphragm	1
3	....	Screw	4
4	....	Back-Up Plate	1
5	....	Diaphragm	1
6	....	Ring (Air Valve)	1
7	....	Valve	1
8	....	Spring	1
9	372115	Fitting	1
10	261963	Gasket	1
11	204787	Gasket	1
12	214117	Spring	1
13	374714	Gasket	1

REF	PART NO.	NAME OF PART	QTY
14	1342990	Governor	1
15	374710	Spring	1
16	374709	Ring	1
17	374708	Bearing	2
18	1339102	Diaphragm	1
19	374706	Lever	1
20	1339103	Throttle Shaft	1
21	201800	Fitting	2
22	191805	Fitting	1
23	295308	Stud	4
23	15055	Nut	4
23	292681	Lockwasher	4
24	1333806	Gasket	1

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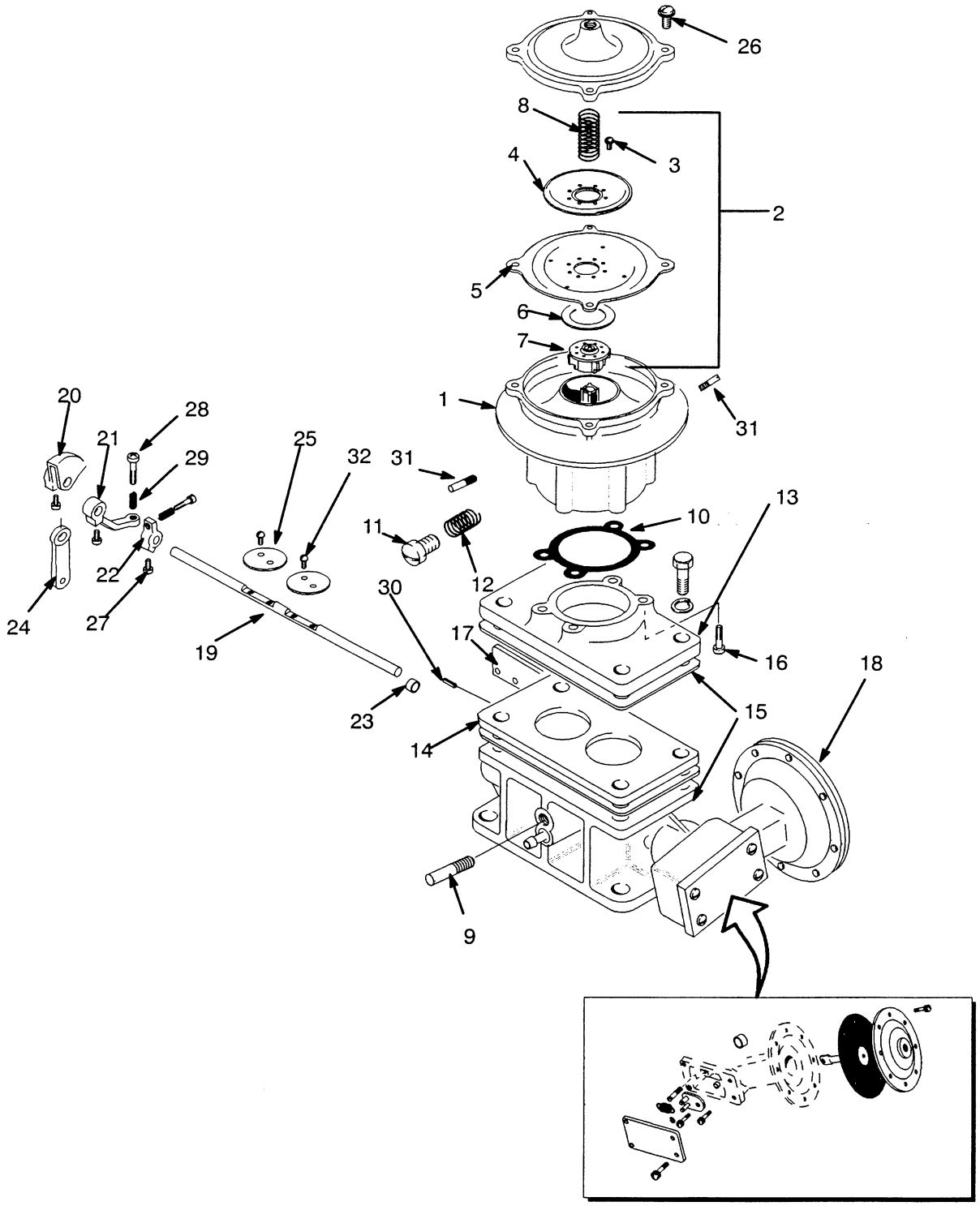
NOTES

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CARBURETOR (FIGURE 68)

LPG

FIRST USED ON S/N G005D-7760 (EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841) AND INCLUDES S/N G005D-7710



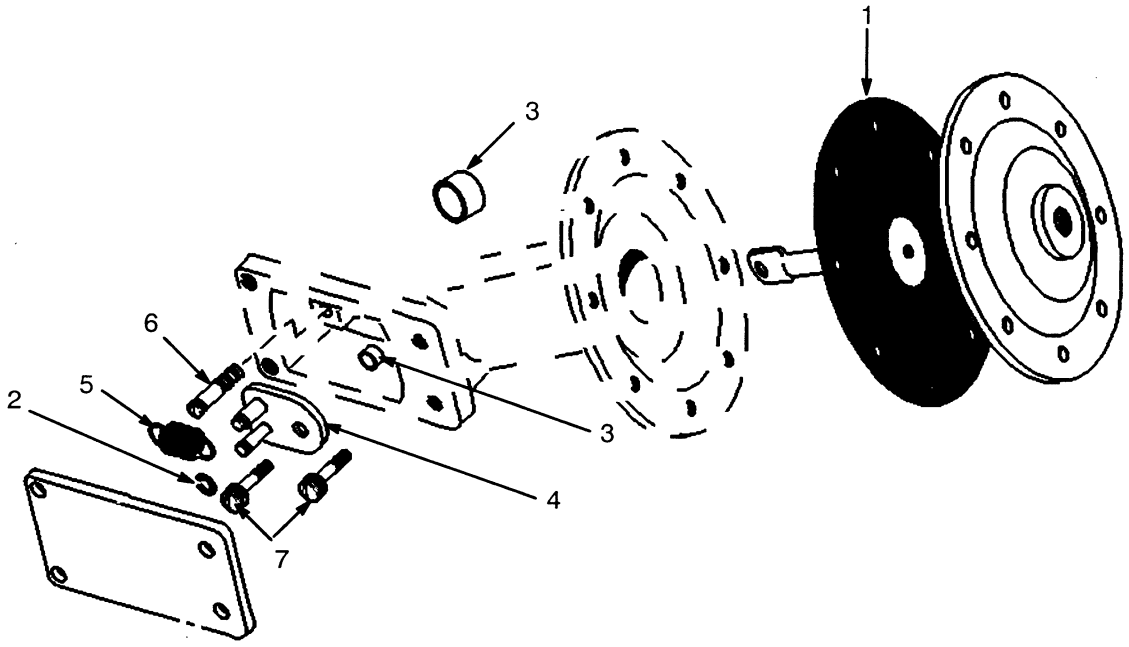
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CARBURETOR
LPG
FIRST USED ON S/N G005D-7760 (EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841) AND INCLUDES S/N G005D-7710

REF	PART NO.	NAME OF PART	QTY
	1383200	Carburetor	1
1	374712	Mixer Assembly	1
2	204782	Valve & Diaphragm Kit	1
3	....	Screw	4
4	....	Back-Up Plate	1
5	....	Diaphragm	1
6	....	Ring (Air Valve)	1
7	....	Valve	1
8	....	Spring	1
9	372115	Fitting	1
10	204787	Gasket	1
11	214117	Spring-Idle Screw	1
12	374713	Spring	1
13	....	Adapter	1
14	261963	Gasket	1
15	374714	Gasket	2
16	....	Bolt	4
17	1383265	Bracket-Idle Up	1
18	1385673	Governor Assembly	1
19	1383264	Throttle Shaft	1
20	1342997	Clamp	1
21	1358241	Lever	1
22	....	Lever Assembly	1
23	374708	Bearing	2
24	....	Floating Lever	1
25	....	Throttle Plate	2
26	132473	Screw	4
27	204790	Screw	3
28	1374057	Screw	1
29	204824	Spring-Idle Stop	1
30	....	Roll Pin	1
31	326926	Screw	2
32	1393165	Screw	4

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GOVERNOR (FIGURE 69)

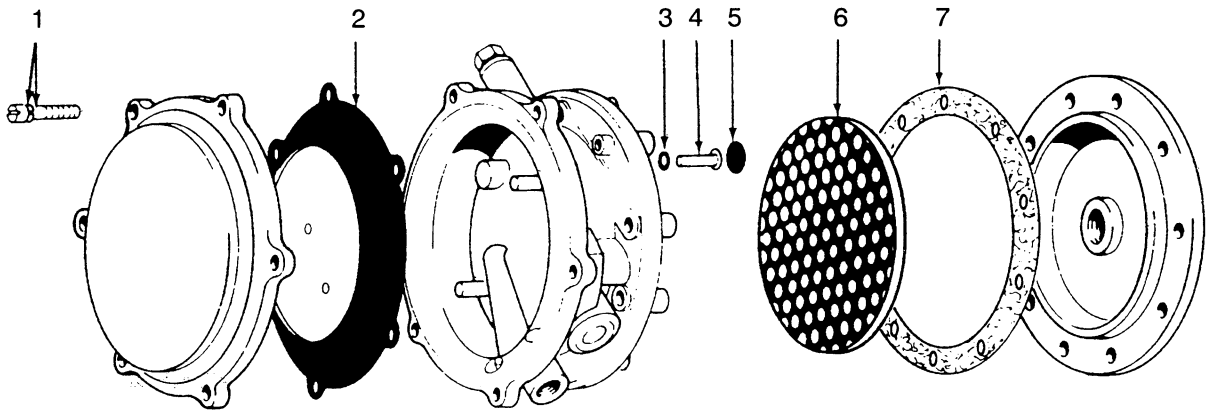


REF	PART NO.	NAME OF PART	QTY
	1385673	Governor	1
1	1339102	Diaphragm Assembly	1
2	374709	Snap Ring	1
3	374708	Bearing	2
4	374706	Lever Assembly	1
5	374710	Spring	1
6	....	Pin-Return Spring	1
7	204790	Screw	2

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LOCK-OFF FILTER (FIGURE 70)

LPG



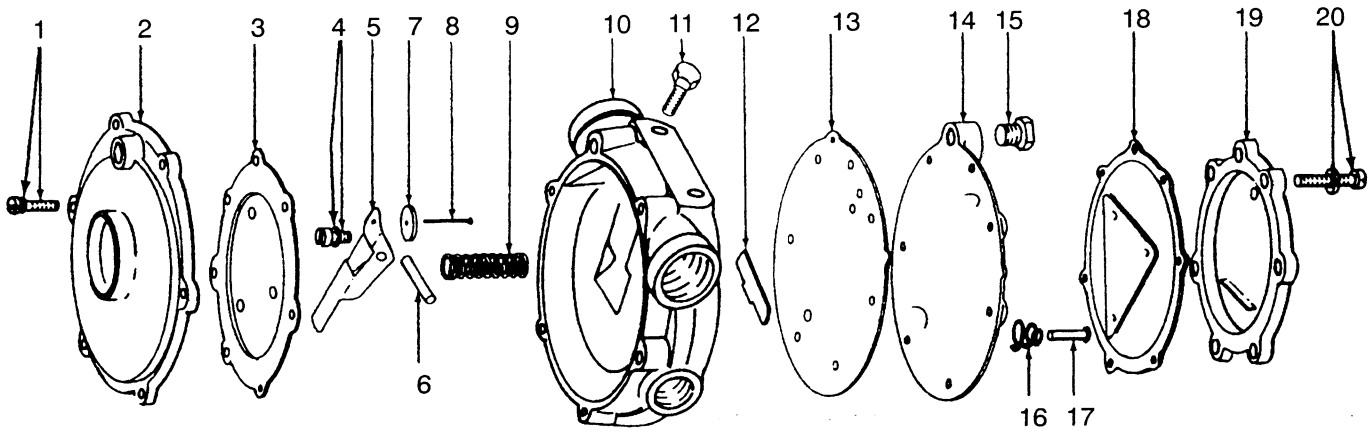
REF		PART NO.	NAME OF PART	QTY
		258321	Lock-Off Filter	1
1	a	....	Screw	6
1	a	....	Washer	6
2	a	....	Diaphragm	1
3	a	....	O-Ring	1
4	a	16731	Screw	2
5	a	....	Valve Seat	1
6	a	....	Filter	1
7	a	....	Gasket	1

a Included In Repair Kit 263958

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LPG CONVERTER (FIGURE 71)

LAST USED ON S/N G005D-2849



REF		PART NO.	NAME OF PART	QTY
		196193	Converter Assembly	1
1	a	....	Capscrew	6
1		....	Lockwasher	6
2		....	Cover	1
3	a	....	Diaphragm	1
4	a	....	Screw	1
4		....	Lockwasher	1
5		204829	Lever	1
6		204830	Pin	1
7	a	....	Seat	1
8	a	....	Pin	1
9		204831	Spring	1
10		....	Body	1
11		....	Screw	2

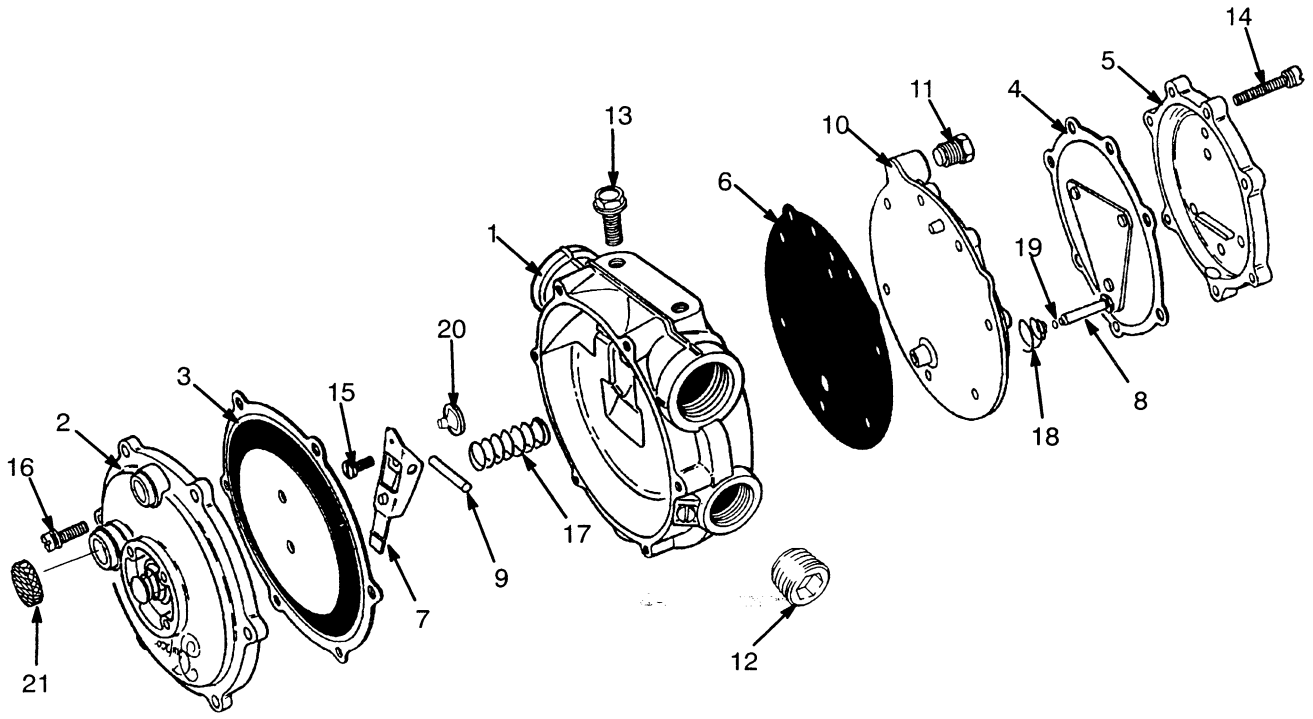
REF		PART NO.	NAME OF PART	QTY
11		....	Lockwasher	2
12	a	....	Seat	1
13	a	....	Gasket	1
14		....	Plate	1
15		....	Fitting	1
16		204835	Spring	1
17	a	....	Pin	1
18	a	....	Diaphragm	1
19		....	Cover	1
20	a	....	Screw	7
20		....	Lockwasher	7

a Included In Repair Kit 204837

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LPG CONVERTER (FIGURE 72)

USED ON S/N G005D-2850 THRU S/N G005D-11516



REF		PART NO.	NAME OF PART	QTY
		1369571	Converter Assembly	1
1		1375027	Body	1
2		....	Cover	1
3	a	1375047	Diaphragm (Secondary)	1
4	a	....	Diaphragm (Primary)	1
5		1375037	Cover (Primary)	1
6	a	....	Gasket	1
7		....	Lever (Secondary)	1
8	a	1376429	Pin	1
9		204830	Pin	1
10		1375029	Plate	1
11		1357749	Plug	1
12		1357707	Plug	1

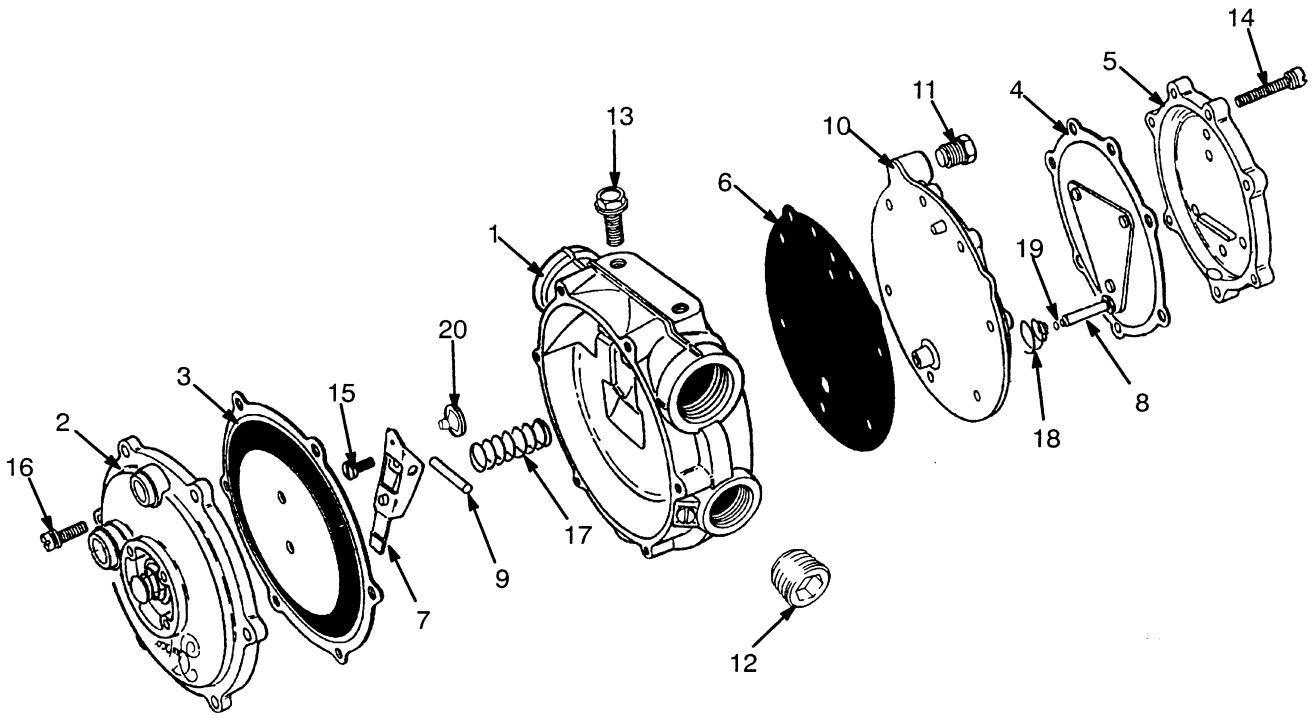
REF		PART NO.	NAME OF PART	QTY
13		1369065	Screw	2
14	a	1450126	Screw	7
15	a	16719	Screw	1
16	a	1450126	Screw	6
17		1375030	Spring	1
18		204831	Spring	1
19		....	Seal	1
20	a	....	Seat	1
21		1367597	Screen	1

a Included In Repair Kit 1375031

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LPG CONVERTER (FIGURE 73)

FIRST USED ON S/N G005D-11517



REF		PART NO.	NAME OF PART	QTY
		1453772	Converter Assembly	1
1		1455310	Body	1
2		1455309	Cover	1
3	a	....	Diaphragm (Secondary)	1
4	a	....	Diaphragm (Primary)	1
5		1375037	Cover (Primary)	1
6	a	....	Gasket	1
7		1357746	Lever (Secondary)	1
8	a	148764	Pin	1
9		204830	Pin	1
10		1375029	Plate	1
11		1357749	Plug	1

REF		PART NO.	NAME OF PART	QTY
12		1357707	Plug	1
13		1369065	Screw	2
14		1455307	Screw	7
15		1455306	Screw	1
16		1450126	Screw	6
17		1455305	Spring	1
18		204831	Spring	1
19	a	.....	E-ring	1
20	a	....	Seat	1

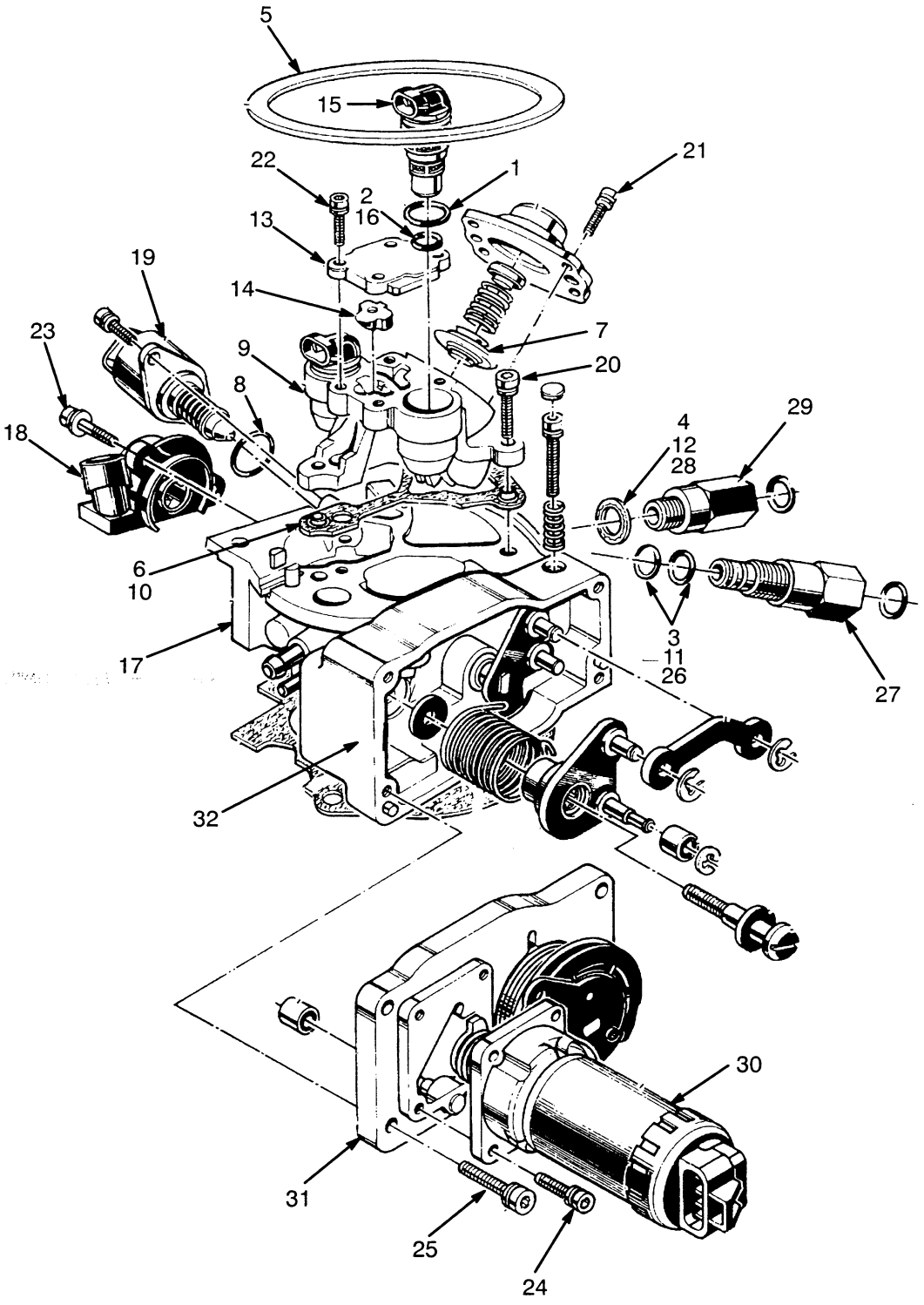
a Included In Repair Kit 1459717

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NOTES

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THROTTLE BODY INJECTOR (FIGURE 74)



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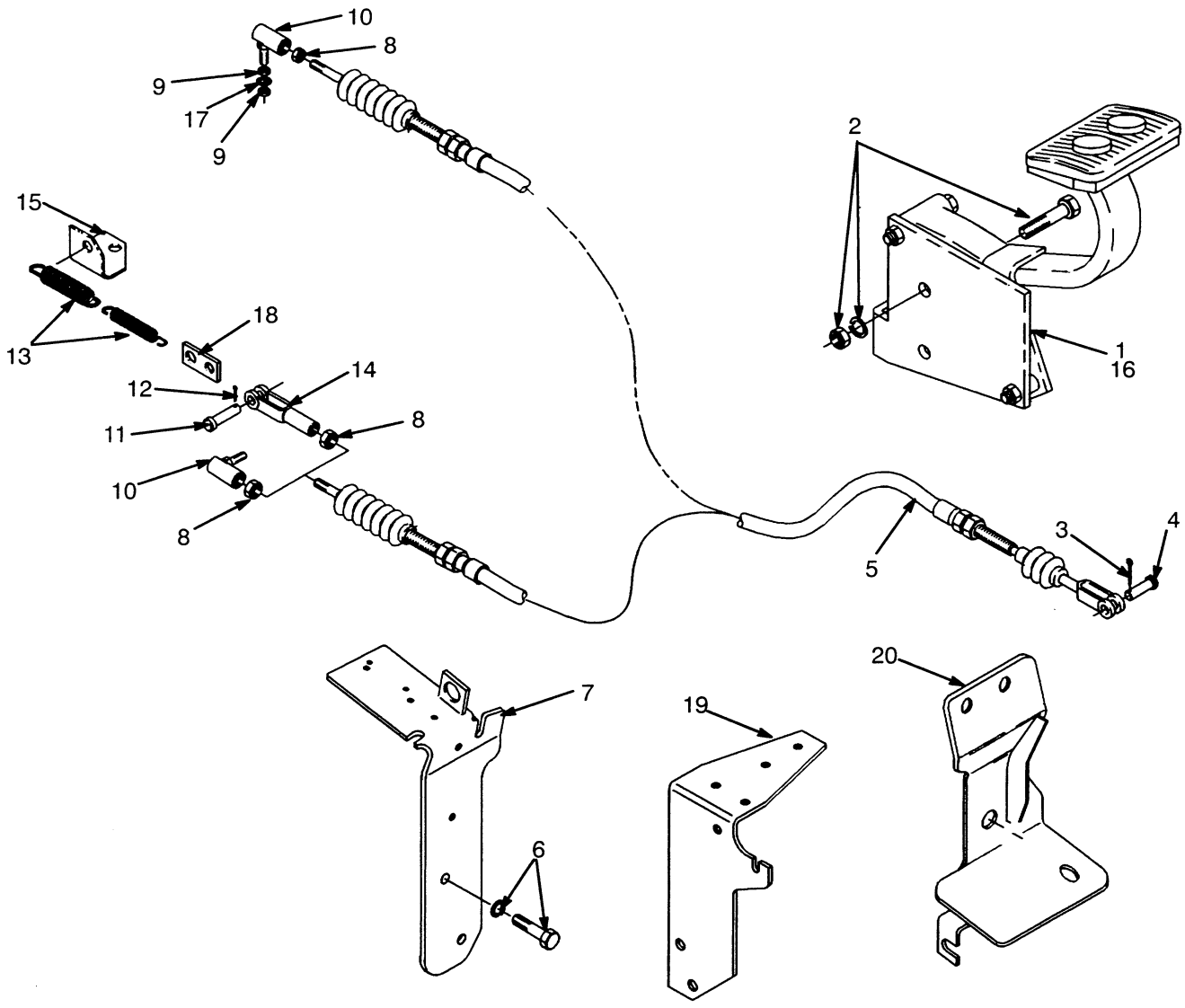
THROTTLE BODY INJECTOR

REF		PART NO.	NAME OF PART	QTY
		1327950	Throttle Body Injector	1
		1337973	Kit-Throttle Body Injector	1
1		....	O-Ring (Upper Injector)	2
2		....	O-Ring (Lower Injector)	2
3		....	O-Ring (Fuel Inlet Nut)	2
4		....	Gasket (Fuel Outlet)	1
5		....	Gasket (Air Cleaner)	1
6		....	Gasket (Fuel Meter Body)	1
7		....	Pressure Regulating Diaphragm	1
8		....	O-Ring (IAC Valve)	1
9		1337974	Kit-Fuel Meter	1
9		....	Fuel Meter Assembly	1
10		....	Gasket (Fuel Meter Body)	1
11		....	O-Ring (Fuel Inlet Nut)	2
12		....	Gasket (Fuel Outlet)	1
13		1337975	Kit-Fuel Meter Body	1
13		....	Cover (Fuel Meter Body)	1
14		....	Block (Fuel Vapor)	1
15	a	1337976	Kit-Fuel Injector	1
15		....	Injector Assembly	1
16		....	O-Ring (Lower Injector)	2
17		1337977	Kit-Throttle Body	1
17		....	Throttle Body Assembly	1
18		1337978	Kit-Throttle Position Sensor	1
18		....	Sensor (Throttle Position)	1
19		1337979	Kit-Idle Air Control	1
19		....	Control Valve (Idle Air)	1
20		1337980	Kit-Screw Assortment	1
20		....	Screw (Fuel Mtr. Body)	3
21		....	Screw (Regulator Cover)	4
22		....	Screw (Fuel Meter Cover)	4
23		....	Screw (Throttle Position Sensor Mount)	2
24		....	Screw (Drive Motor Mount)	4
25		....	Screw (Motor Plate Mount)	4
26		1337981	Kit-Fuel Inlet/Outlet Pack	1
26		....	O-Ring (Fuel Inlet Nut)	2
27		....	Nut (Fuel Inlet)	1
28		....	Gasket (Fuel Outlet Fitting)	1
29		....	Fitting (Fuel Outlet)	1
30		1337982	Kit-Drive Motor	1
30		1396573	Drive Motor	1
30		.....	Spring	1
31		1337983	Kit-Throttle Drive	1
31		....	Drive Assembly (Throttle)	1
32		1337984	Kit-Governor Service	1

a Remanufactured Injector Kit P/N 1450481

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THROTTLE LINKAGE (FIGURE 75)



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THROTTLE LINKAGE

KEY:
A: Gasoline
B: LPG
C: Diesel

REF		PART NO.	NAME OF PART	QTY A	B	C
1		....	Throttle Pedal	1	1	1
			☞ Figure 76 & Figure 77			
2		136985	Capscrew	2	2	2
2		136692	Nut	2	2	2
2		292682	Lockwasher	2	2	2
3		15212	Pin	1	1	1
4		162836	Rod-End Pin	1	1	1
5	a	1339917	Cable	1	1	1
5	b	1383274	Cable	1	1	1
6		16598	Capscrew	2	..	..
6		292682	Lockwasher	2	..	..
7	e	1336133	Bracket	1	..	..
7	f	1461409	Bracket	1	..	..
8		15002	Nut	1	1	2
9		15024	Nut	..	..	2
10		161252	Ball Joint	1	..	1
11		126	Pin	..	1	..
12		15200	Cotter Pin	..	1	..
13		1330272	Spring (0.819 in, OD)	..	1	..
13		1330273	Spring (0.600 in, OD)	..	1	..
14		314809	Rod End	..	1	..
15	a	1337884	Bracket	..	1	..
16		137852	Clamp	..	..	1
17		15923	Washer	..	..	1
18	a	1345022	Plate	..	1	..
18	b	1383250	Link	..	1	..
19		352782	Bracket	..	1	..
20	c	1313835	Bracket (Without Low Emissions)	..	..	1
20	d	1454335	Bracket (With Low Emssions)	..	..	1

a Last Used On S/N G005D-7759 (Including S/N 7830-7832, 7834-7837, 7840 And 7841) Except S/N G005D-7710

b First Used On S/N G005D-7760 (Except For S/N 7830-7832, 7834-7837, 7840 And 7841) And Includes S/N G005D-7710

c Last Used On S/N G005D-11941

d First Used On S/N G005D-11942

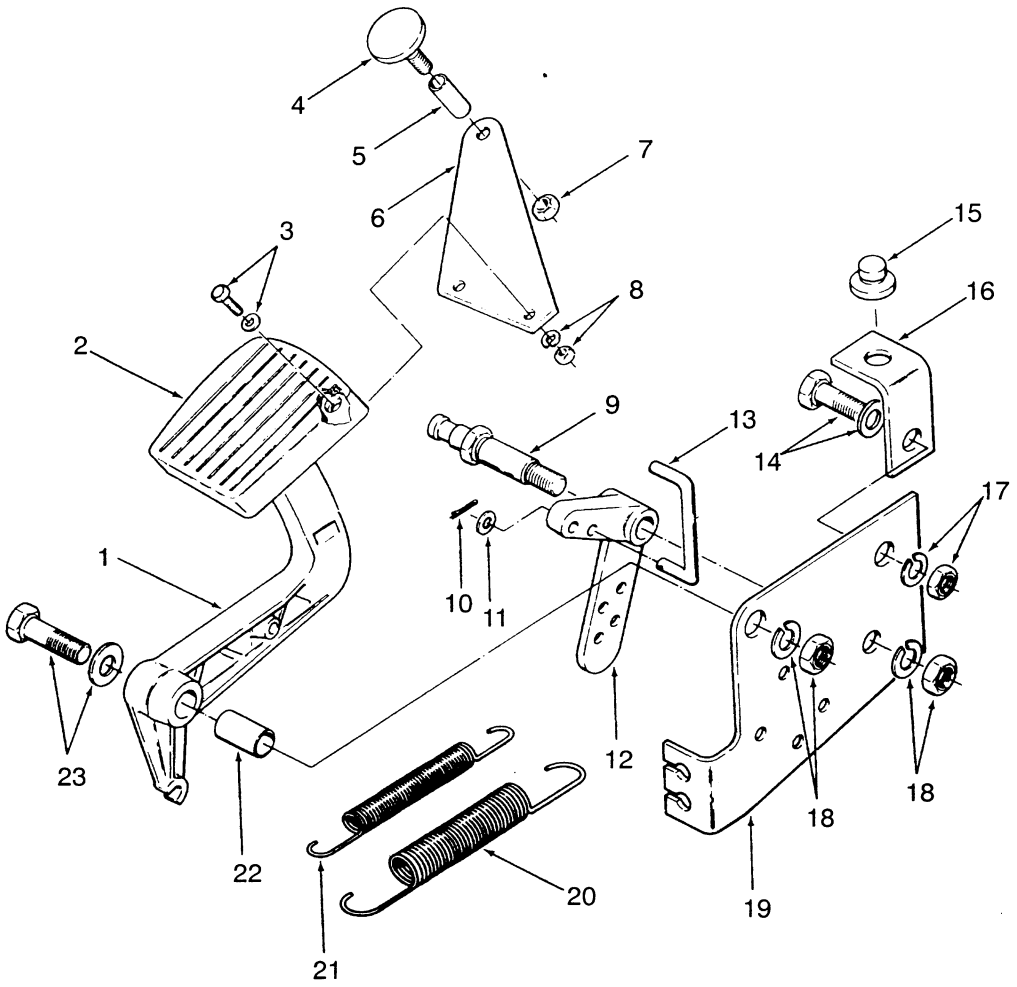
e Last Used On S/N G005D-14735, Except For S/N G005D-14584

f First Used On G005D-14736 And Includes S/N G005D-14584

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THROTTLE PEDAL (FIGURE 76)

OIL CLUTCH AND POWERSHIFT WITH FORWARD/REVERSE LEVER



REF		PART NO.	NAME OF PART	QTY
1		352499	Pedal	1
2		352885	Pad	1
3	a	302248	Screw	2
3	a	320155	Washer	2
4	a	118051	Pad	1
5	a	352942	Mount	1
6	a	352944	Plate	1
7	a	239503	Nut	1
8	a	292679	Lockwasher	2
8	a	292668	Nut	2
9		352485	Shaft	1
10		15200	Cotter Pin	1
11		320156	Washer	1
12		353164	Crank	1
13		353129	Rod	1

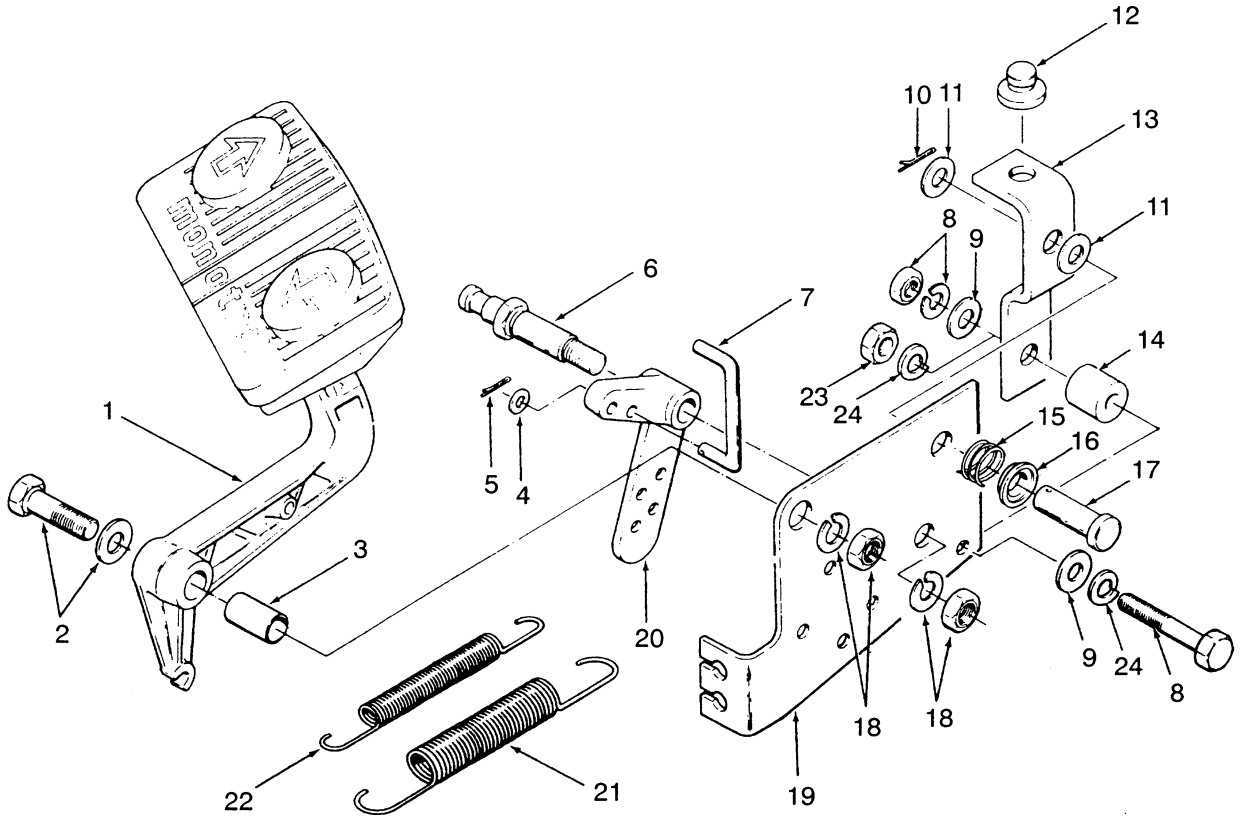
REF	PART NO.	NAME OF PART	QTY
14	287854	Capscrew	1
14	320160	Washer	1
15	353195	Bumper	1
16	353159	Bracket	1
17	292682	Lockwasher	1
17	296128	Nut	1
18	292682	Lockwasher	2
18	136692	Nut	2
19	352482	Bracket	1
20	353142	Spring (0.760 in, OD)	1
21	353143	Spring (0.530 in, OD)	1
22	325708	Tube	1
23	292521	Capscrew	1
23	320160	Washer	1

a Auxiliary Throttle Pedal

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THROTTLE PEDAL (FIGURE 77)

POWERSHIFT WITH MONOTROL PEDAL



REF	PART NO.	NAME OF PART	QTY
1	....	Pedal	1
		☞ Figure 135	
2	292523	Capscrew	1
2	320160	Washer	1
3	353141	Tube	1
4	320156	Washer	1
5	15200	Cotter Pin	1
6	352485	Shaft	1
7	353129	Rod	1
8	287851	Capscrew	1
9	320158	Washer	1
10	15212	Pin	1
11	320160	Washer	2
12	353195	Bumper	1

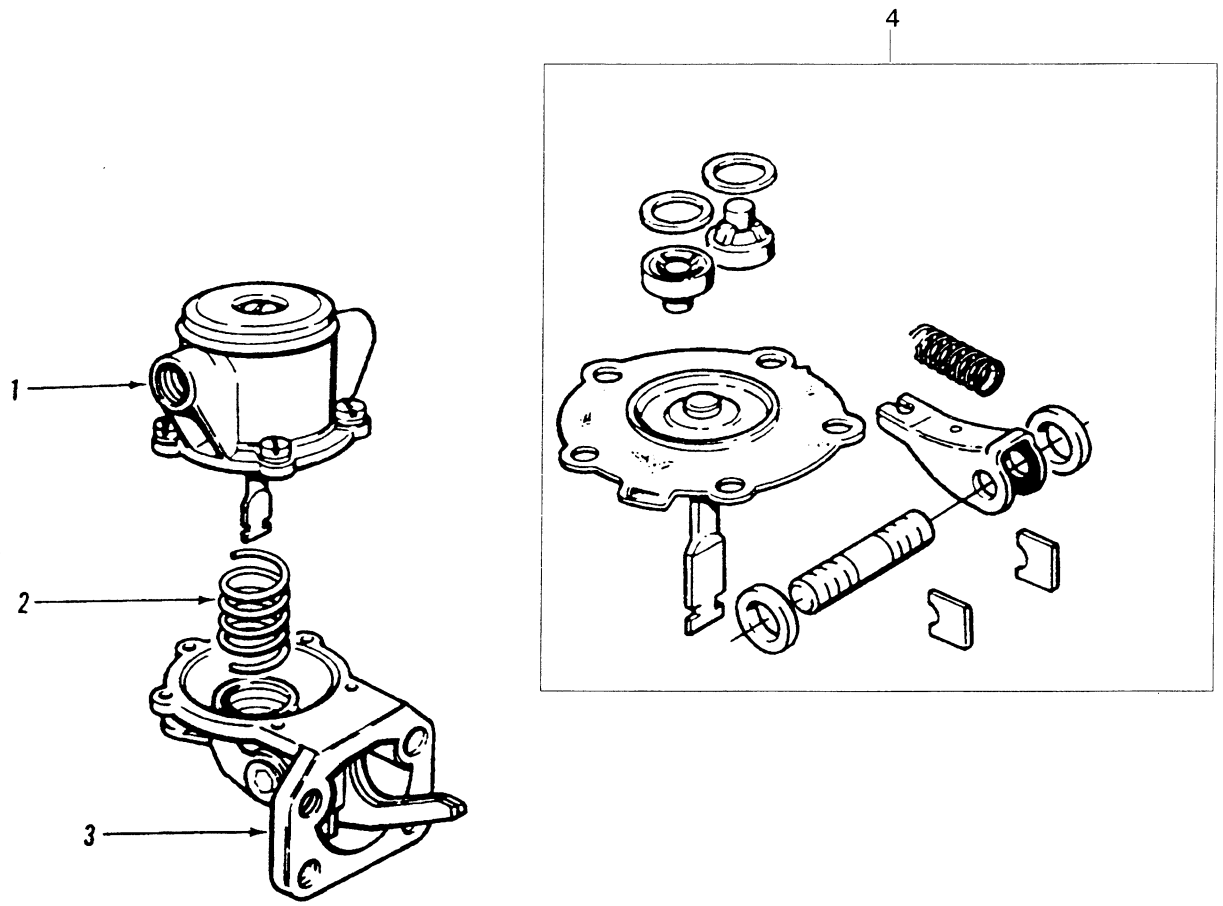
REF	PART NO.	NAME OF PART	QTY
13	352950	Bracket	1
14	353453	Mount	1
15	353172	Spring	1
16	353230	Cap	1
17	142	Pin	1
18	292682	Lockwasher	2
18	136692	Nut	2
19	352482	Bracket	1
20	353164	Crank	1
21	353142	Spring (0.760 in, OD)	1
22	353143	Spring (0.530 in, OD)	1
23	239503	Nut	1
24	292681	Lockwasher	2

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LIFT PUMP (FIGURE 78)

DIESEL (WITHOUT LOW EMISSIONS)

LAST USED ON S/N G005A-10666



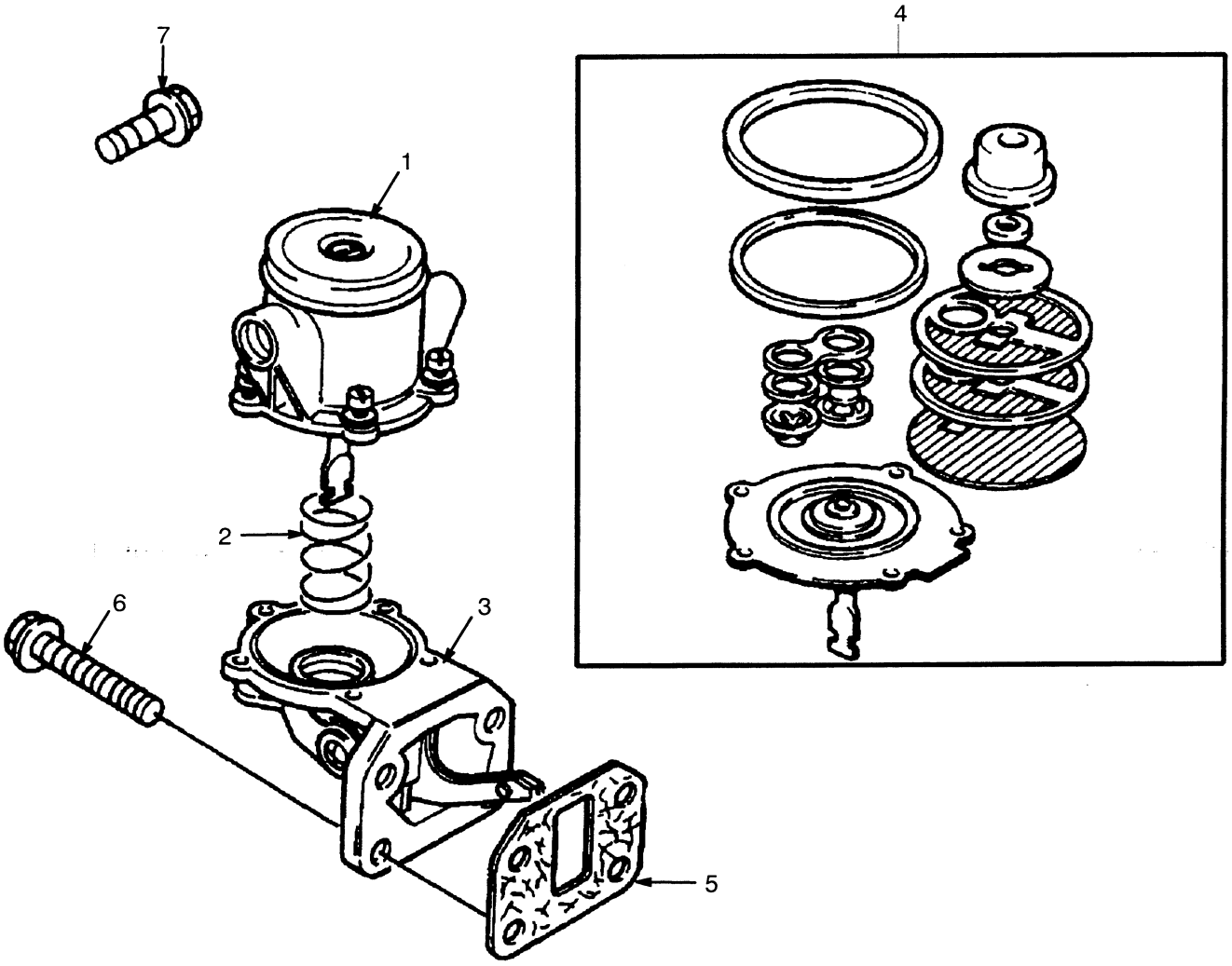
REF	PART NO.	NAME OF PART	QTY
	377323	Engine (Oil Clutch)	1
	1343305	Engine (Powershift)	1
	1380760	Lift Pump	1
1	....	Body	1
2	....	Spring	1
3	....	Body	1
4	1380761	Kit-Repair	1

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LIFT PUMP (FIGURE 79)

DIESEL (WITH LOW EMISSIONS)

FIRST USED ON S/N G005A-10667



REF	PART NO.	NAME OF PART	QTY
	1453203	Engine (Powershift)	1
	1456338	Lift Pump	1
1	....	Cover	1
2	....	Spring	1
3	....	Body	1

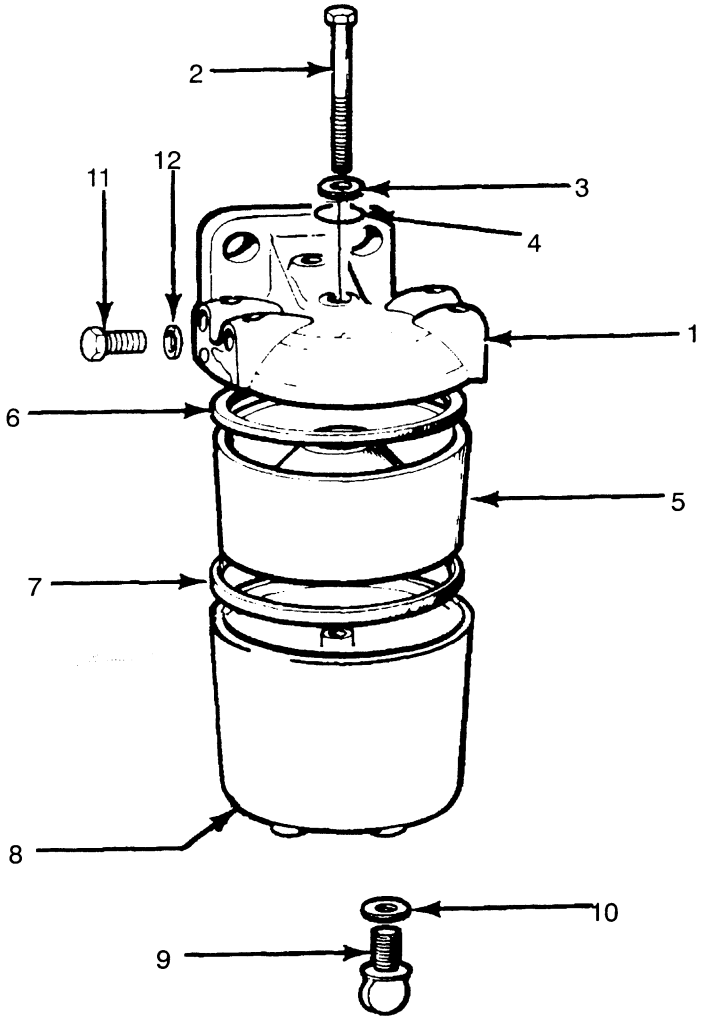
REF	PART NO.	NAME OF PART	QTY
4	1456518	Kit-Repair	1
5	1382562	Gasket	1
6	1307894	Screw	4
7	386459	Screw	1

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WATER FILTER AND SEPARATOR (FIGURE 80)

DIESEL



REF	PART NO.	NAME OF PART	QTY
	271047	Filter	1
1	272273	Filter Head	1
2	256219	Bolt	1
3	256220	Washer	1
4	168914	Seal	1
5	177407	Filter Element	1
6	292781	Seal Ring (Bottom)	1
7	292782	Seal Ring (Top)	1
8	271443	Base	1
9	271448	Drain Plug	1
10	271449	Washer	1
11	170688	Plug	2
12	272274	Washer	1

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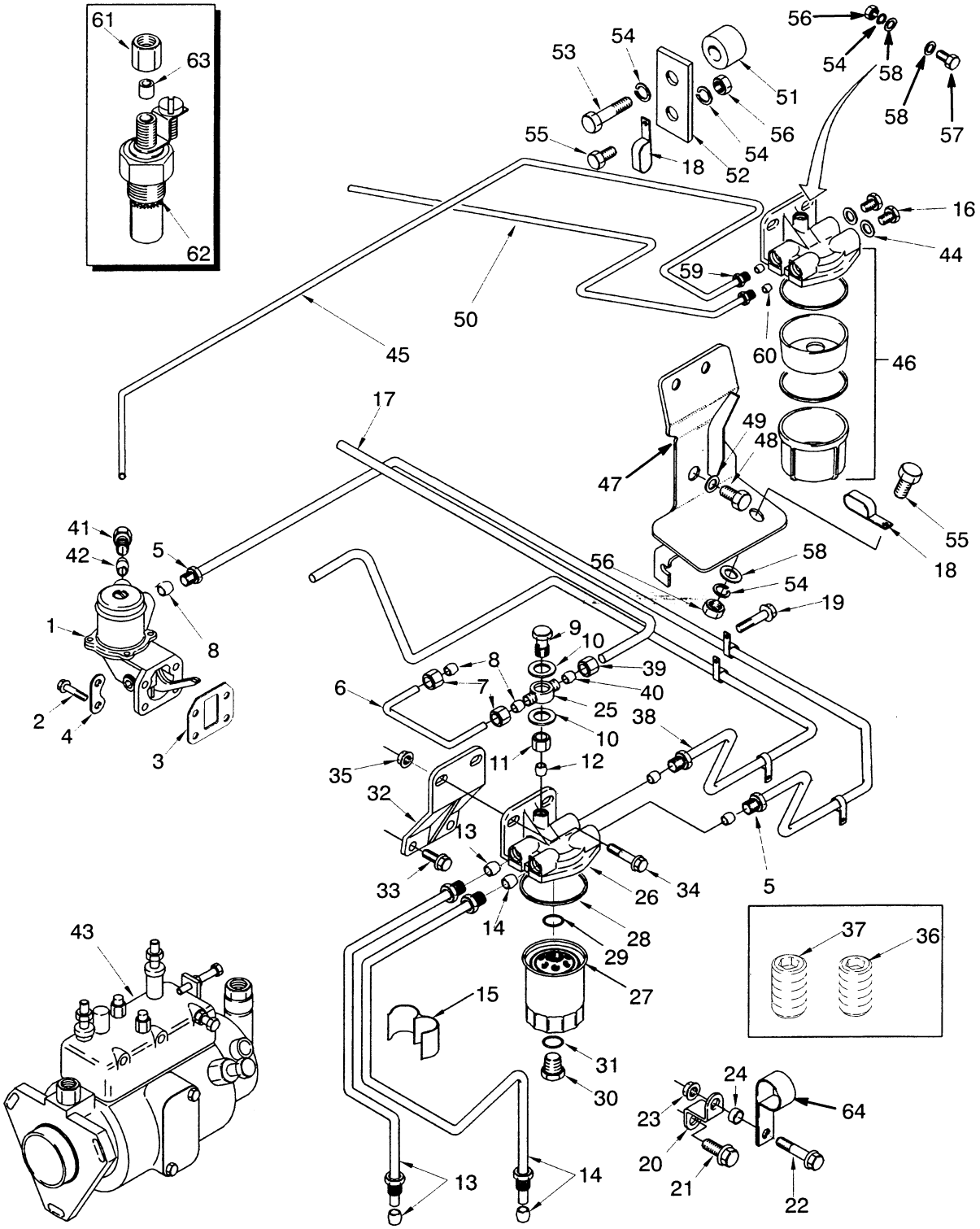
NOTES

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LOW PRESSURE FUEL INJECTION (FIGURE 81)

WITHOUT LOW EMISSIONS

LAST USED ON S/N G005A-10666



LOW PRESSURE FUEL INJECTION

WITHOUT LOW EMISSIONS

LAST USED ON S/N G005A-10666

REF		PART NO.	NAME OF PART	QTY
		377323	Engine (Oil Clutch)	1
		1343305	Engine (Power Shift)	1
1		....	Lift Pump	1
			☞ Figure 78	
2		1307894	Screw	4
3	b	1382562	Gasket	1
4		273324	Plate	2
5		1307919	Pipe	1
5		158187	Sleeve	2
5		271320	Clip	1
5		145587	Clip	1
6		1307920	Pipe	1
7		152609	Nut	2
8		152608	Sleeve	2
9		983346	Bolt	1
10		983348	Washer	2
11		16118	Fitting	1
12		16114	Fitting	1
13		1307889	Pipe	1
13		158187	Sleeve	2
14		1307921	Pipe	1
14		158187	Sleeve	2
15		1468313	Clip	2
16		173941	Plug	2
17		377374	Tube	1
18		191828	Clamp	3
19		386459	Screw	1
20		1308000	Bracket	1
21		1307883	Screw	1
22		1308001	Screw	1
23		1307884	Nut	1
24		1308002	Washer	1
25		1308003	Connector	1
26		1306345	Fuel Filter	1
27	a	....	Element	1
28	a	....	Seal	1
29	a	....	Seal	1
30	a	1308005	Plug	1
31	a	1308006	Washer	1
32		1308004	Bracket	1
33		1306371	Screw	2
34		1307913	Screw	2
35		1307891	Nut	2
36		15314	Fitting	1
37		15962	Fitting	1
38		1315753	Pipe	1
39		152609	Nut	1
40		152608	Sleeve	1
41		16100	Fitting	1
42		16177	Fitting	1
43		....	Injection Pump	1
			☞ Figure 83	
44		981260	Washer	2
45		377399	Tube	1
46		....	Water Seperator	1
			☞ Figure 80	
46		292781	Sealing Ring (Bottom)	1
46		292782	Sealing Ring (Top)	1
47		1313835	Bracket	1
48		287854	Capscrew	2
49		292682	Lockwasher	2
50		377378	Tube	1
51		381879	Spacer	1
52		381880	Bracket	1
53		132861	Capscrew	1
54		292681	Lockwasher	5
55		136681	Capscrew	2
56		239503	Nut	4
57		176640	Capscrew	2
58		320157	Washer	5
59		985222	Nut	3
60		16114	Fitting	3
61		152609	Nut	1
62		245885	Heater	1
63		152608	Sleeve	1
64		145587	Clamp	1

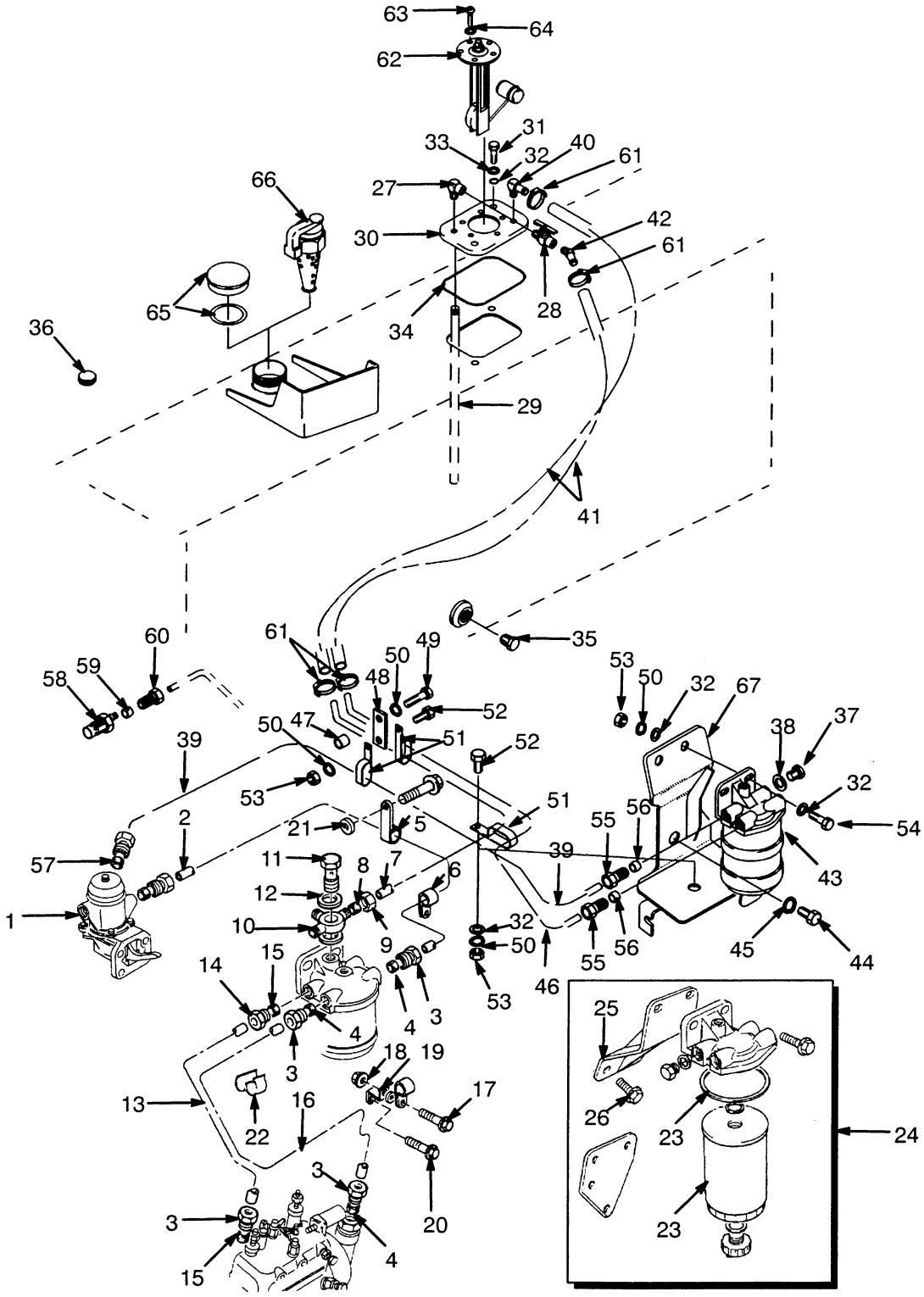
a Included In Element Kit 1306331
b Incuded In Bottom Gasket Kit 1371723
c Last Used On S/N G005A-10666
d First Used On S/N G005A-10667

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LOW PRESSURE FUEL INJECTION (FIGURE 82)

WITH LOW EMISSIONS

FIRST USED ON S/N G005A-10667



LOW PRESSURE FUEL INJECTION
WITH LOW EMISSIONS
FIRST USED ON S/N G005A-10667

REF	PART NO.	NAME OF PART	QTY
	1453203	Engine (Power Shift)	1
1	....	Lift Pump	1
		☞ Figure 79	
2	1456519	Pipe	1
3	16100	Fitting	4
4	167023	Sleeve	4
5	1456520	Clip	1
6	1456521	Clip	1
7	1454144	Tube	1
8	16114	Fitting	2
9	16118	Olive	1
10	1451770	Connection	1
11	1456522	Bolt	1
12	1456524	Washer	2
13	1456525	Pipe	1
14	16100	Fitting	2
15	167023	Sleeve	2
16	1456527	Pipe	1
17	1308001	Screw	1
18	1307884	Nut	1
19	1308000	Bracket	1
20	1307883	Screw	1
21	1308002	Washer	1
22	1456528	Clip	1
23	1306345	Fuel Filter	1
24	1306331	Kit-Filter Element	1
25	1308004	Bracket	1
26	1306371	Screw	2
27	17736	Fitting	1
28	16190	Shut-Off Valve	1
29	1320915	Pipe-Fuel	1
30	1350922	Cover-Fuel Tank	1
31	329067	Screw	2
32	320157	Washer	7
33	353000	O-Ring	2
34	353106	Seal	1
35	14385	Fitting	1
36	1332607	Plug	1
37	173941	Plug	2
38	981260	Washer	2
39	1458426	Tube	1
40	17343	Fitting	1
41	1303194	Hose	2
42	1316809	Fitting	1
43	....	Water Seperator	1
		☞ Figure 80	
44	287854	Capscrew	2
45	292682	Lockwasher	2
46	377378	Tube	1
47	381879	Spacer	1
48	381880	Bracket	1
49	132861	Capscrew	1
50	292681	Lockwasher	5
51	191828	Clamp	3
52	136681	Capscrew	2
53	239503	Nut	4
54	176640	Capscrew	2
55	985222	Nut	4
56	16100	Fitting	2
57	16177	Fitting	2
58	245885	Heater Induction	1
59	152608	Olive	1
60	152609	Union Nut	1
61	168718	Clamp	4
62	305594	Fuel Gauge	1
63	16708	Screw	5
64	350483	Washer	1
65	298832	Cap-Fuel	1
66 [a]	63899	Cap-Fuel	1
66 [a]	138880	Shim	1
67	1454335	Bracket	1

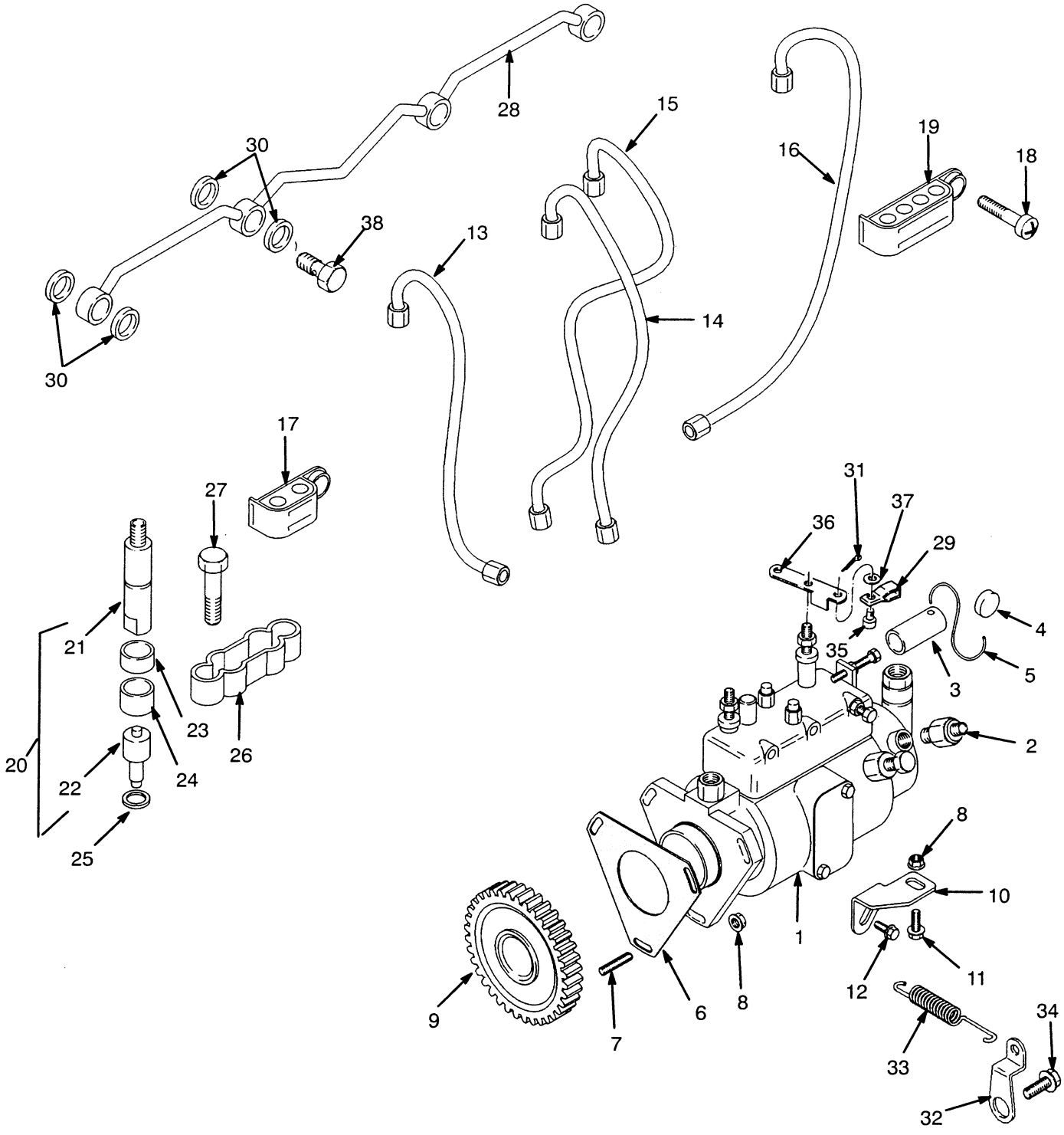
[a] DS

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HIGH PRESSURE FUEL INJECTION & PUMP (FIGURE 83)

WITHOUT LOW EMISSIONS

LAST USED ON S/N G005A-10666



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HIGH PRESSURE FUEL INJECTION & PUMP

WITHOUT LOW EMISSIONS

LAST USED ON S/N G005A-10666

REF		PART NO.	NAME OF PART	QTY
		377323	Engine (Oil Clutch)	1
		1343305	Engine (Power Shift)	1
1	d	1343055	Injection Pump	1
1	e	1385724	Injection Pump	1
2		1306329	Solenoid	1
2		39346	O-Ring	1
3		1371708	Sleeve	1
4		151315	Seal	1
5		151316	Lock Wire	1
6	a	1371720	Gasket	1
7		1456726	Stud	3
8		1306359	Nut	4
9		1306049	Gear	1
10		1306125	Bracket	1
11		386459	Screw	1
12		1306371	Screw	1
13	b	1306126	Pipe (#1)	1
13	c	1388381	Pipe (#1)	1
14	b	1306127	Pipe (#2)	1
14	c	1388382	Pipe (#2)	1
15	b	1306128	Pipe (#3)	1
15	c	1388383	Pipe (#3)	1
16	b	1306129	Pipe (#4)	1
16	c	1388384	Pipe (#4)	1
17		1388385	Clip	2
18		1306372	Screw	3
19		1388386	Clip	1
20		1306132	Injector	4
21		1306133	Holder	1
22		1306134	Nozzle	1
23		359144	Spacer	4
24	f	359145	Seal	4
25	f	99756	Washer	4
26		1306135	Clamp	4
27		1306373	Screw	8
28		1306136	Pipe	1
29		377997	Rod End	1
30		985567	Washer	8
31		15200	Cotter PIn	1
32		1306334	Bracket	1
33		1315751	Spring	1
34		1306354	Screw	1
35		161542	Pin	1
36	d	158193	Lever (Throttle)	1
36	e	1385720	Lever (Throttle)	1
37		257438	Washer	1
38		983340	Bolt	4

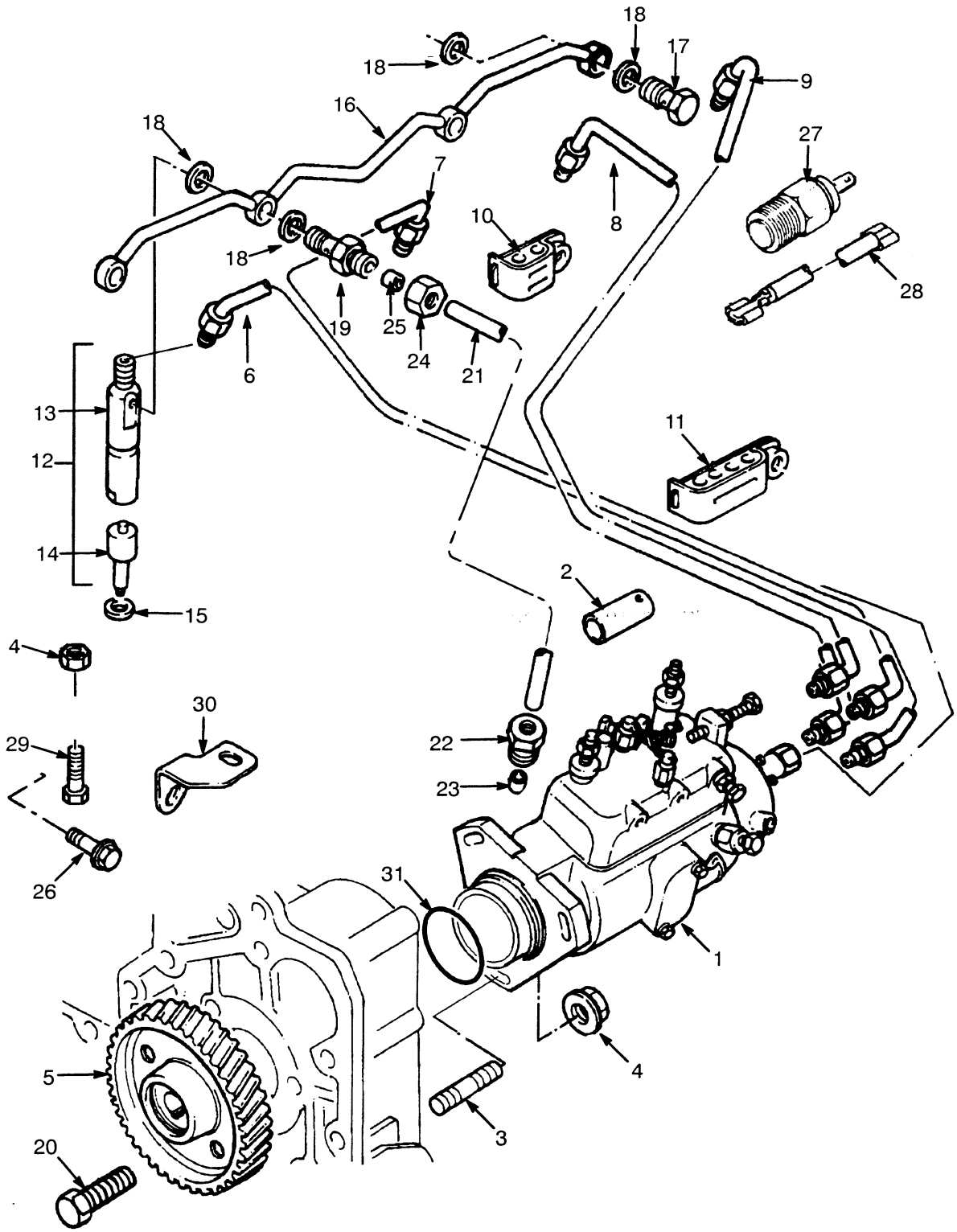
a Included In Bottom Gasket 1371723
b Last Used On Engine S/N U679765Y
c First Used On Engine S/N U679766Y
d Last Used On Engine S/N U645308Y
e First Used On Engine S/N U645309Y
f Included In Top Gasket Kit 1371731

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HIGH PRESSURE FUEL INJECTION & PUMP (FIGURE 84)

WITH LOW EMISSIONS

FIRST USED ON S/N G005A-10667



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HIGH PRESSURE FUEL INJECTION & PUMP

WITH LOW EMISSIONS

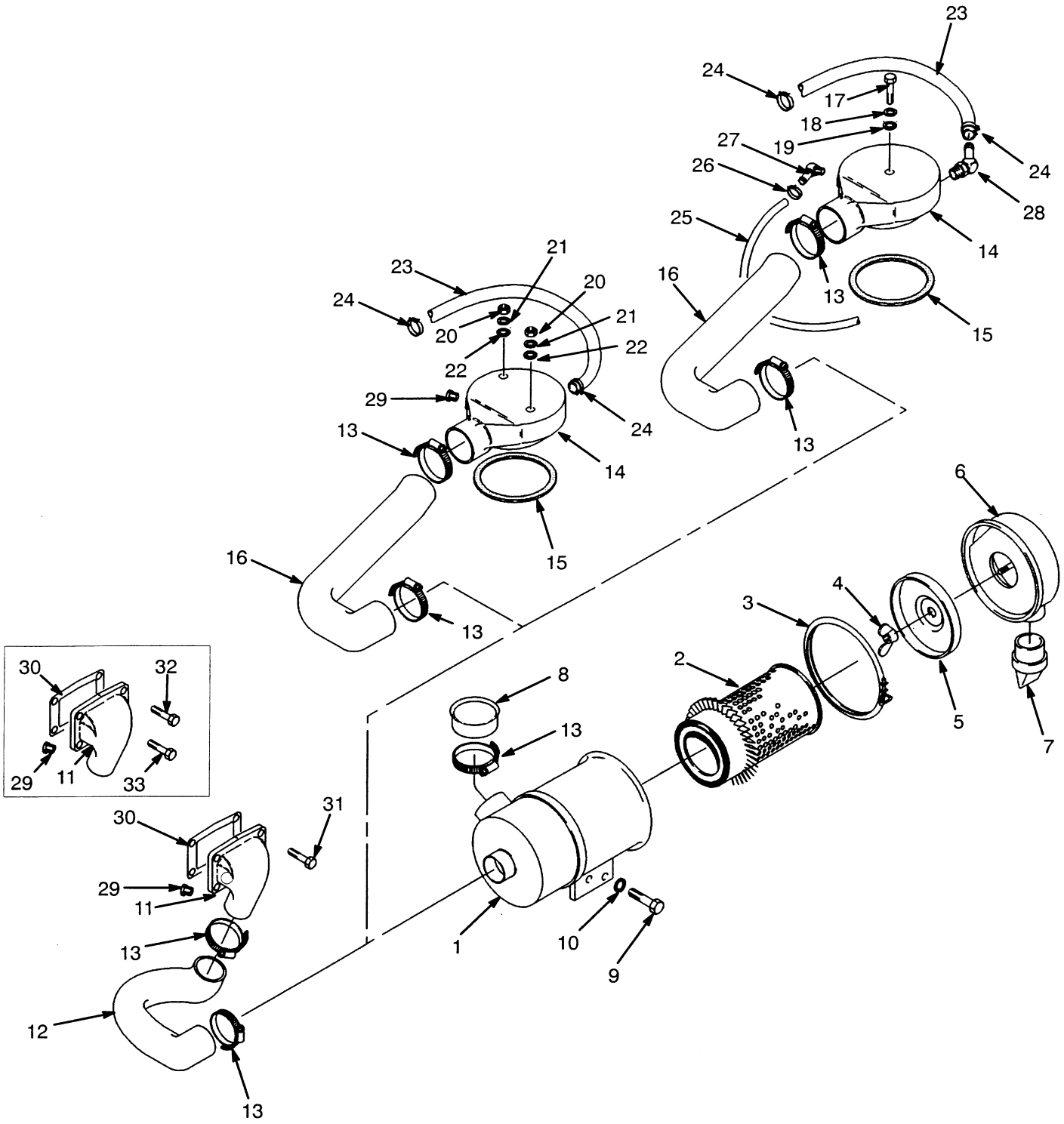
FIRST USED ON S/N G005A-10667

REF	PART NO.	NAME OF PART	QTY
	1453203	Engine (Power Shift)	1
1	1463664	Injection Pump	1
1	1460572	O-Ring	1
1	1306329	Solenoid	1
2	1453314	Cap	1
3	1456726	Stud	3
4	1306359	Nut	4
5	1456727	Gear (Fuel Pump)	1
6	1456728	Pipe (#1)	1
7	1456729	Pipe (#2)	1
8	1456730	Pipe (#3)	1
9	1456731	Pipe (#4)	1
10	1388385	Clip	2
11	1388386	Clip	1
12	1456732	Atomiser	4
13	1456733	Holder	1
14	1456734	Nozzle	1
15	1451669	Washer	4
16	1456735	Pipe (Leak Off)	1
17	1451672	Bolt	3
18	1451673	Washer	8
19	1451674	Connection	1
20	1307881	Screw	4
21	1456736	Pipe (Air)	1
22	1311070	Nut	1
23	1306337	Olive	1
24	152609	Nut	1
25	152608	Olive	1
26	386459	Screw	1
27	1451656	Sender	1
28	1453154	Lead	1
29	1306371	Screw	1
30	1453315	Bracket	1
31	1460572	Quad Ring	1

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AIR FILTER (FIGURE 85)

STANDARD



AIR FILTER

STANDARD

KEY:
A: Gasoline
B: LPG
C: Diesel

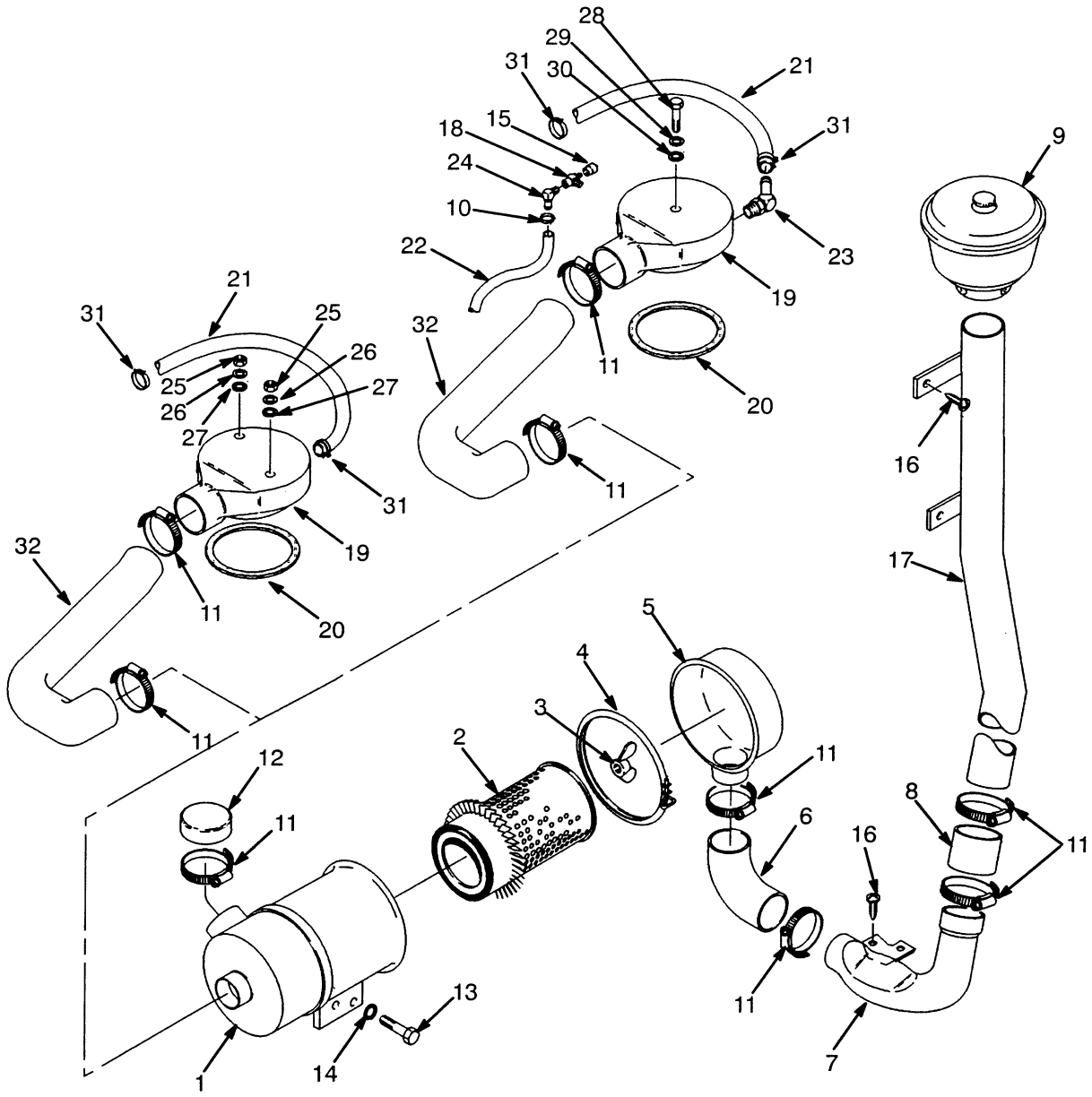
REF		PART NO.	NAME OF PART	QTY A	B	C
1		344446	Air Filter	1	1	1
2		379411	Filter Element	1	1	1
3		290734	Clamp	1	1	1
4		125847	Nut	1	1	1
5		290735	Baffle	1	1	1
6		374922	Cup	1	1	1
7		374923	Valve	1	1	1
8		344445	Boot	1	1	1
9		287854	Capscrew	2	2	2
10		292682	Lockwasher	2	2	2
11		377358	Connection (Manifold) (Without Low Emissions)	..	..	1
11	c	1454674	Connection (Manifold) (WithLow Emissions)	..	..	1
12		377324	Hose (Intake) (Without Low Emissions)	..	..	1
12	c	1455215	Hose (Intake) (WithLow Emissions)	..	..	1
13		2033817	Clamp	3	3	3
14		1330323	Cover (Air)	1	..	..
14		1307266	Cover (Air)	..	1	..
15		1345993	Gasket	1	1	..
16	a	1330347	Hose (Intake)	1	1	..
16	b	1384347	Hose (Intake)	1	1	..
17		18465	Capscrew	..	1	..
18		18500	Washer	..	1	..
19		183661	Seal Washer	..	1	..
20		15055	Nut	2	..	..
21		320157	Washer	2	..	..
22		109919	Seal Washer	2	..	..
23		85777	Hose	1	1	..
24		353198	Clamp	2	2	..
25		1333807	Hose (Silicone)	..	1	..
26		353310	Clamp	..	2	..
27		17343	Fitting	..	1	..
28		16694	Fitting	..	1	..
29		14349	Plug	1	..	1
30		1345794	Gasket (Without Low Emissions)	..	..	1
30	c	1345795	Gasket (WithLow Emissions)	..	..	1
31		1306358	Capscrew (Without Low Emissions)	..	..	4
32	c	293614	Capscrew (WithLow Emissions)	..	..	4
33	c	293625	Capscrew (WithLow Emissions)	..	..	4

a Last Used On S/N G005D-7759 (Including 7830-32, 7834-37, 7840, 7841)
b First Used On S/N G005D-7760 (Except 7830-32, 7834-37, 7840, 7841)
c First Used On S/N G005D-11942

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AIR FILTER (FIGURE 86)

HEAVY DUTY GASOLINE AND LPG



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AIR FILTER

HEAVY DUTY GASOLINE AND LPG

KEY:
A: Gasoline
B: LPG

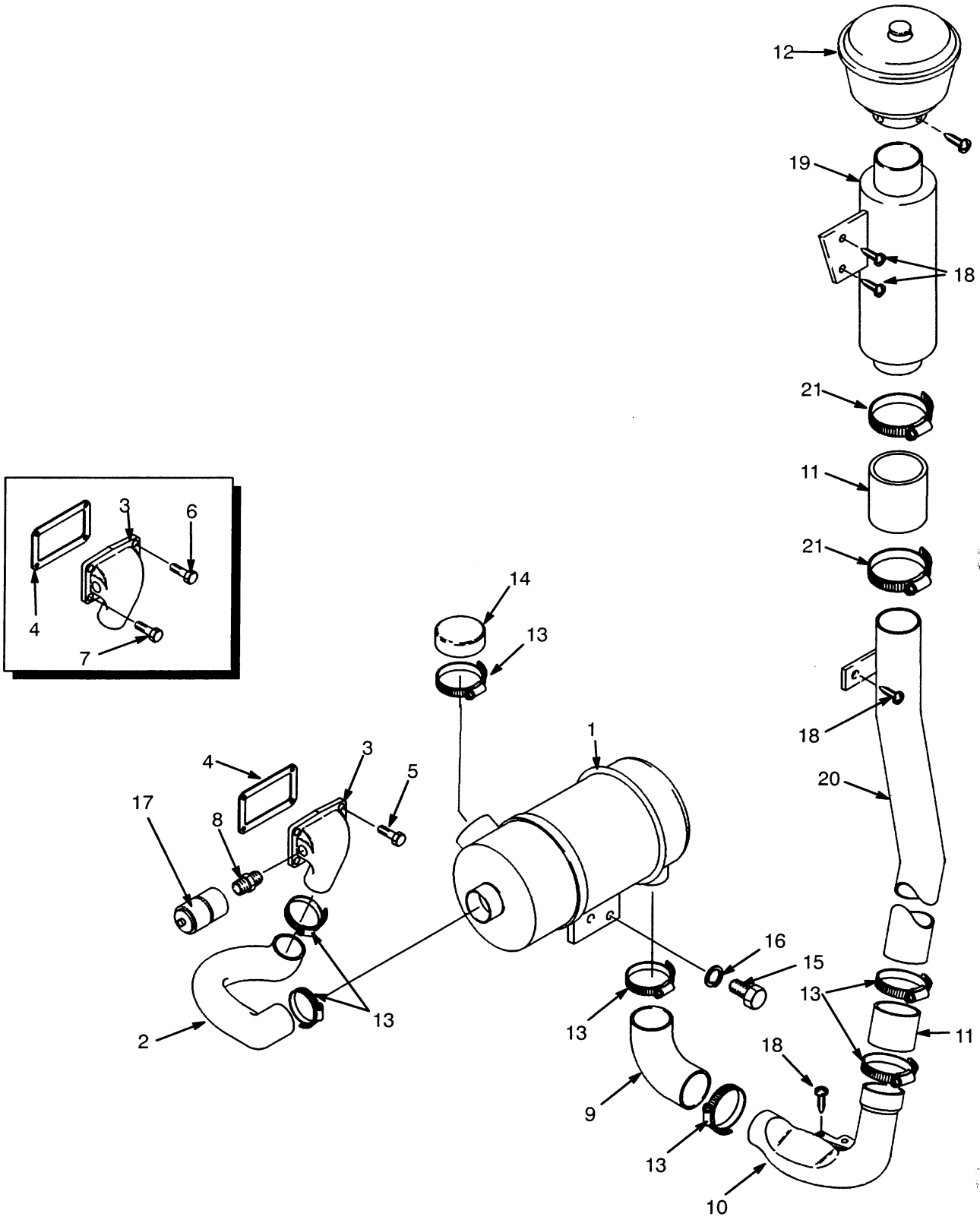
REF		PART NO.	NAME OF PART	QTY A	QTY B
1		....	Air Filter	1	1
			☞ ☞ Figure 79		
2		305080	Element	1	1
3		125847	Nut	1	1
4		290734	Clamp	1	1
5		1302137	Cap	1	1
6		1302141	Elbow	1	1
7		1302142	Tube	1	1
8		1302143	Hose	1	1
9	c	291974	Pre-Filter	1	1
9	c	1374205	Cover	1	1
9	c	1374206	Body	1	1
9	c	1374207	Sleeve	1	1
9	d	1301167	Pre-Cleaner	1	1
9	d	328753	Cover	1	1
9	d	1313904	Sleeve	1	1
9	d	328754	Body	1	1
9		115696	Clamp	1	1
10		353310	Clamp	..	2
11		2033817	Clamp	7	7
12		1302144	Cap	1	1
13		287854	Capscrew	2	2
14		292682	Lockwasher	2	2
15		295440	Indicator (Restrictor)	1	1
16		329067	Screw	4	4
17	c	1302148	Tube	1	1
17	d	1456663	Tube	1	1
18		17650	Fitting	1	..
18		17671	Fitting	..	1
19		1330323	Cover	1	..
19		1307266	Cover	..	1
20		1345993	Gasket	1	..
21		85777	Hose	1	1
22		1333807	Hose (Silicone)	..	1
23		16694	Fitting	..	1
24		16746	Fitting	..	1
25		15055	Nut	2	..
26		109919	Seal Washer	2	..
27		18515	Washer	2	..
28		18465	Capscrew	..	1
29		183661	Seal Washer	..	1
30		18515	Washer	..	1
31		353198	Clamp	2	2
32	a	1330347	Hose (Intake)	1	1
32	b	1384347	Hose (Intake)	1	1

a Last Used On S/N G005D-7759 (Including 7830-32, 7834-37, 7840, 7841)
b First Used On S/N G005D-7760 (Except 7830-32, 7834-37, 7840, 7841)
c Last Used On S/N G005A-10666
d First Used On S/N G005A-10667

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AIR FILTER (FIGURE 87)

HEAVY DUTY DIESEL



AIR FILTER

HEAVY DUTY DIESEL

REF		PART NO.	NAME OF PART	QTY
1		1379505.	Air Filter Assy	1
2		377324	Hose (Without Low Emissions)	1
2		1455215	Hose (With Low Emissions)	1
3		377358	Connection Manifold Without low Emissions)	1
3		1454674	Connection Manifold (WithLow Emissions)	1
4		1345794	Gasket (Without Low Emissions)	1
4		1345795	Gasket (With Low Emissions)	1
5		1306358	Capscrew (Without Low Emissions)	4
6		293614	Capscrew (With Low Emissions)	2
7		293625	Capscrew (With Low Emissions	2
8		16150	Adaptor	1
9		1302141	Elbow	1
10		1302142	Tube	1
11		1302143	Hose	1
12	a	291974	Pre-Cleaner	1
12	b	1301167	Pre-Cleaner	1
12		328753	Cover	1
12		1313904	Sleeve	1
12		328754	Body	1
13		2033817	Clamp	7
14		1302144	Cap	1
15		287854	Capscrew	2
16		292682	Washer	2
17		295440	Indicator	2
18		329067	Screw	6
19	a	1302379	Silencer	1
19	b	1456515	Silencer	1
20	a	1302145	Tube	1
20	b	1456510	Tube	1
21		115696	Clamp	2

a Last Used On S/N G005A-10666
b First Used On S/N G005A-10667

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NOTES

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ELECTRICAL SYSTEM

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ALTERNATOR (Figure 105)
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(EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841)
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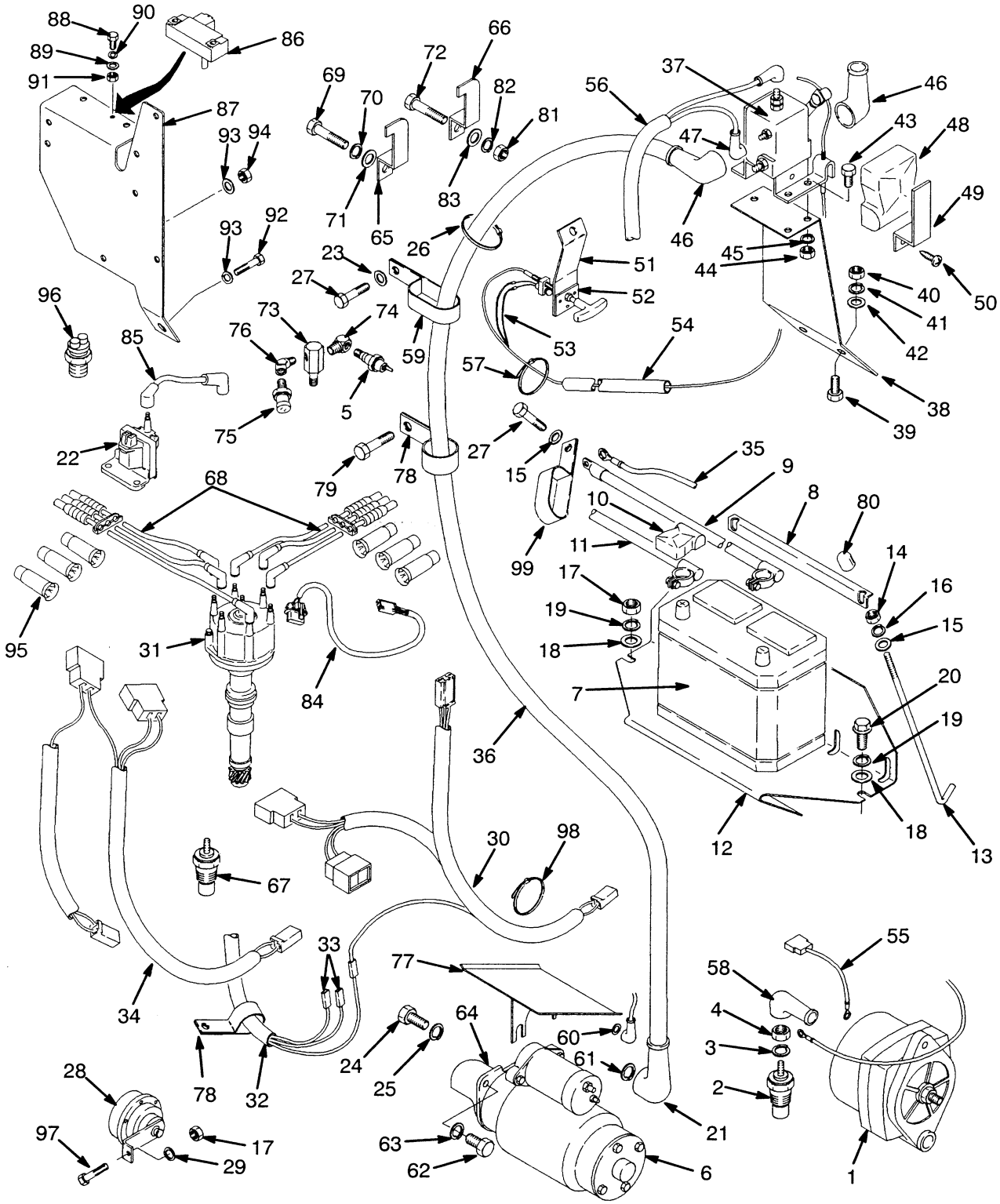
WIRE HARNESS (Figure 120)
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ELECTRICAL SYSTEM (FIGURE 88)

GASOLINE AND LPG

LAST USED ON S/N G005D-13153



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ELECTRICAL SYSTEM

GASOLINE AND LPG

LAST USED ON S/N G005D-13153

REF		PART NO.	NAME OF PART	QTY
1		....	Alternator	1
			☞ Figure 102 Thru Figure 105	
2		1333827	Sender (Water Temperature)	1
3		15152	Lockwasher	1
4		15002	Nut	1
5		366687	Pressure Switch (Engine Oil)	1
6	d	....	Starter	1
			☞ Figure 108	
6	e	....	Starter	1
			☞ Figure 109	
6	f	....	Starter	1
			☞ Figure 110	
7		1383331	Battery (Wet)	1
7		177894	Battery (Dry)	1
8		309152	Bracket	1
9		381802	Cable (Negative)	1
10		257241	Cover	1
11	k	1383288	Cable (Positive)	1
11	m	1383289	Cable (Positive)	1
11	m	275498	Conduit (.750 I.D.)	1
11	ck	1383284	Cable (Positive)	1
11	cm	1383285	Cable (Positive)	1
11	m	275498	Conduit (.750 I.D.)	1
12		1333805	Tray	1
13		309124	Rod	2
14		136687	Nut	2
15		320156	Washer	2
16		292680	Lockwasher	2
17		239503	Nut	1
18		320158	Washer	2
19		292681	Lockwasher	2
20		329067	Screw	1
21		204223	Cover	1
22		1331331	Coil	1
23		320156	Washer	1
24		18535	Capscrew	1
25		15156	Lockwasher	1
26		273775	Strap Clamp	2
27		292501	Capscrew	1

REF		PART NO.	NAME OF PART	QTY
28		1383778	Horn	1
28		296406	Washer (Ground)	1
29		292681	Washer	1
30		....	Harness (Neutral Start With Monotrol Pedal)	1
			☞ Figure 120	
31		....	Distributor	1
			☞ Figure 96 And Figure 97	
32		....	Harness (Oil Clutch)	1
			☞ Figure 117	
33		181045	Connector (Neutral Start With Monotrol Pedal)	2
34		....	Harness (Neutral Start) (With Forward And Reverse)	1
34			☞ Figure 119	
35		353145	Ground Wire	1
36	c	1337843	Cable	1
37	c	353305	Switch	1
38	c	1337831	Bracket	1
39	c	292514	Capscrew	2
40	c	136692	Nut	2
41	c	292682	Lockwasher	2
42	c	320159	Washer	2
43	c	292501	Capscrew	3
44	c	136687	Nut	3
45	c	292680	Lockwasher	3
46	c	204223	Cover	2
47	c	190383	Cover	2
48	c	257241	Cover	1
49	c	111763	Clamp	1
51		353256	Bracket	1
52	c	17173	Rivet	2
53	c	353306	Wire	1
54	c	275496	Conduit	AR
55	c	353257	Wire	1
56	a	353258	Harness	1
56	b	1374437	Harness	1
57		129563	Strap Clamp	7

CONTINUED ON NEXT PAGE

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ELECTRICAL SYSTEM

GASOLINE AND LPG

LAST USED ON S/N G005D-13153

REF		PART NO.	NAME OF PART	QTY
58		190383	Boot	2
59		198675	Clamp	1
60		18500	Washer	2
61		292682	Lockwasher	1
62		16828	Capscrew	3
63		15156	Lockwasher	3
64		313022	Sealant	AR
65		350190	Support	1
66		1327907	Support	1
67		190252	Pressure Switch	1
68	h	1346150	Harness, LH	1
68	g	1354180	Harness, LH (High Temperature Kit)	1
68	h	1346151	Harness, RH	1
69		16598	Capscrew	1
70		15156	Lockwasher	1
71		320156	Washer	1
72		287816	Capscrew	1
73		1330341	Fitting	1
74		1339443	Fitting	1
75		1330353	Sender (Oil Pressure)	1
76		12821	Fitting	1
77		1337415	Shield	1
78		128408	Clamp	2
79		292515	Capscrew	2
80		1326939	Cap	2
81		136687	Nut	1
82		296379	Washer (Toothed)	1
83		320156	Washer	1
84		1351987	Wire Assembly (Primary)	1
85	k	1343900	Wire Assembly (Coil)	1
85	m	1452904	Wire Assembly (Coil)	1
86		1314387	Sensor (MAP)	1
87	e	1333830	Bracket (MAP)	1
87	f	1459272	Bracket (MAP)	1
88		302251	Screw	2
89		320155	Washer	2
90		292679	Lockwasher	2
91		292668	Nut	2
92		16598	Capscrew	2
93		15156	Lockwasher	2
94		15056	Nut	1
95		1351171	Heat Shield (High Temperature Wire Kit)	6
96		1314381	Sensor (Coolant Temperature)	1
97		136749	Capscrew	1
98		129563	Strap Clamp	1
99		176910	Clamp (Insulated)	1

a Last Used On S/N G005D-3337 (LPG), G005D -3408 (Gasoline)

b First Used On S/N G005D-3338 (LPG), G005D-3409 (Gasoline)

c Type GS And LPS

d Last Used On Date Break 8/95

e Used On Date Break 8/95 Thru S/N G005D-7759 (Including 7830-32, 7834-37, 7840, 7841) Except S/N G005D-7710

f First Used On S/N G005D-7760 (Except 7830-32, 7834-37, 7840, 7841) And Including S/N G005D-7710

g Included In Major Tune-Up Kit 996340 And 996342

h Included In Major Tune-Up Kit 996337

k Last Used On S/N G005D-10804

m First Used On S/N G005D-10805

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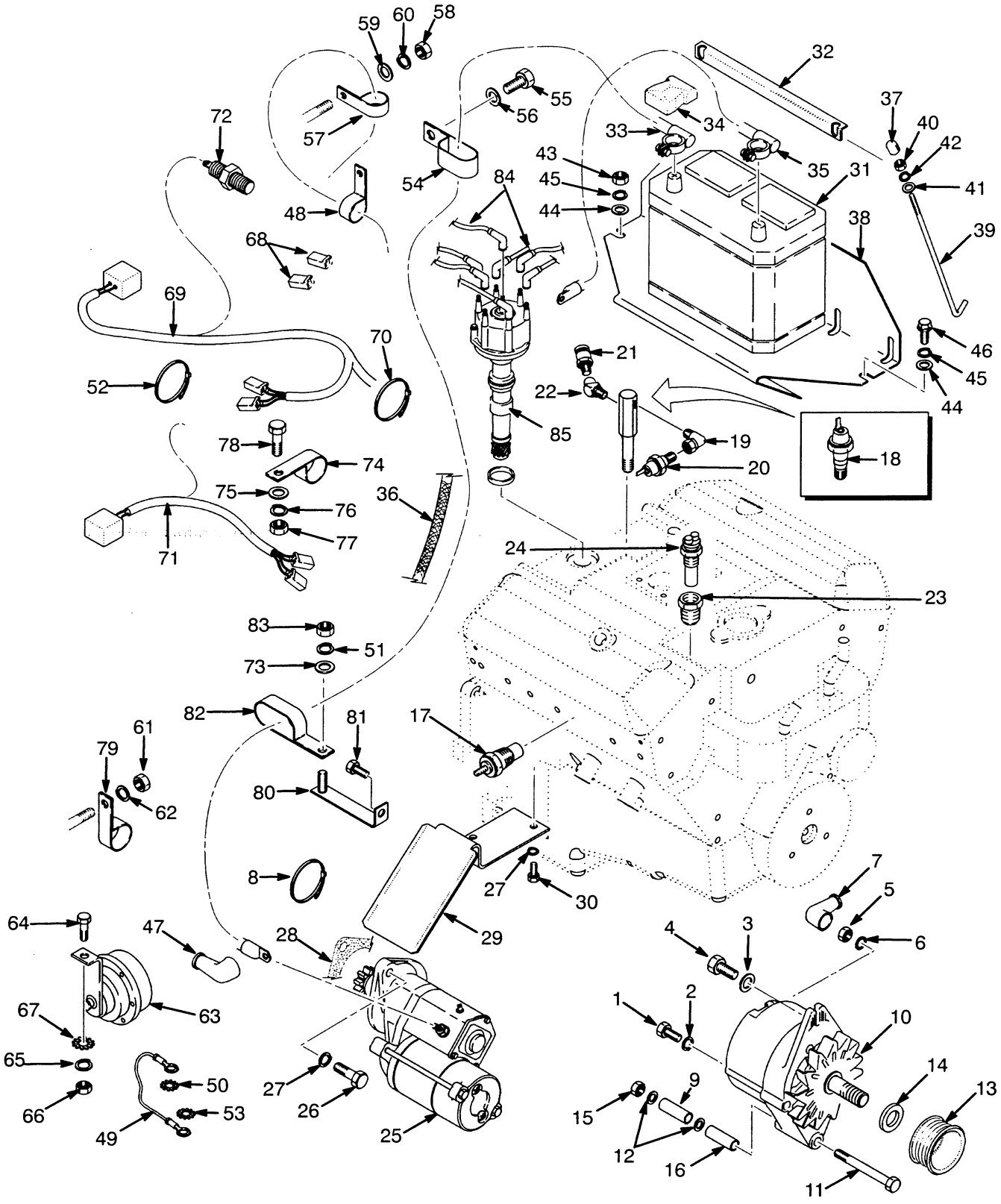
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ELECTRICAL SYSTEM (FIGURE 89)

GASOLINE AND LPG

FIRST USED ON S/N G005D-13154



ELECTRICAL SYSTEM

GASOLINE AND LPG

FIRST USED ON S/N G005D-13154

REF		PART NO.	NAME OF PART	QTY
1		287851	Capscrew	1
2		292681	Lockwasher	1
3		350818	Washer	1
4		329067	Screw	1
5		136687	Nut	1
6		296359	Washer	1
7		157065	Boot	1
8		114312	Strap Clamp	2
9		189338	Spacer	1
10		....	Alternator	1
			☞ Figure 104	
11		18548	Capscrew	1
12		261379	Washer	2
13		1377751	Pulley	1
14		1377738	Spacer	1
15		139743	Nut	1
16		305100	Sleeve	1
17		1333827	Water Temperature Sender	1
18	a	1383346	Oil Pressure Switch	1
19	a	1339443	Elbow	1
20		366687	Pressure Switch	1
21	a	1330353	Oil Pressure Sender	1
22	a	12821	Fitting	1
23		16116	Fitting	1
24		1314381	Coolant Sensor	1
25		....	Starter Motor	1
			☞ Figure 110	
26	a	16828	Capscrew	2
27	a	15156	Washer	4
28	a	264159	Adhesive	AR
29	a	1384332	Dripshield	1
30	a	16597	Capscrew	2
31		1383331	Battery (Wet)	1
32		309152	Battery Holddown	1
33		381802	Battery Cable	1
34		257241	Boot	1
35		1383289	Battery Cable	1
36		275496	Conduit	AR
37		1326939	Cap	2
38		1459741	Battery Tray	1
39		309124	Link	2
40		136687	Nut	2
41		320156	Washer	2
42		292680	Lockwasher	2
43		239503	Nut	1
44		320158	Washer	2
45		292681	Lockwasher	2
46		329067	Screw	1
47		204223	Boot	1
48	a	128408	Clamp	1
49		353145	Ground Wire	1
50		296407	Washer	1
50		296361	Washer (Optional)	1
51		292682	Lockwasher	1
52		129563	Strap Clamp	2
53		296408	Washer	1
54		176910	Clamp	1
55	a	292501	Capscrew	1
56		320156	Washer	1
57	a	89220	Clamp	1
58	a	136692	Nut	1
59	a	320159	Washer	1
60	a	292682	Lockwasher	1
61		239503	Nut	1
62		292681	Lockwasher	1
63		1383778	Horn	1
64		136749	Capscrew	1
65		292681	Lockwasher	1
66		239503	Nut	1
67		296406	Washer	1
68	c	181045	Connector Body	2
69	ce	....	Wire Harness (Neutral Start)	1
			☞ Figure 120	
69	d	....	Wire Harness (Neutral Start)	1
			☞ Figure 119	
70	c	129563	Strap Clamp	2
71	f	....	Wire Harness (Oil Clutch)	1
			☞ Figure 117	
72	f	190252	Pressure Switch	1

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ELECTRICAL SYSTEM

GASOLINE AND LPG

FIRST USED ON S/N G005D-13154

REF		PART NO.	NAME OF PART	QTY
73		320154	Washer	1
74	f	101625	Clamp	2
75	f	320159	Washer	1
76	f	292682	Washer	1
77	f	136692	Nut	1
78	f	136985	Capscrew	1
79	f	146047	Clamp	1
80		1337841	Bracket	1
81		292515	Capscrew	1
82	a	119074	Clamp	1
83		136692	Nut	1
84	h	1346150	Harness, LH	1
84	g	1354180	Harness, LH, (High Temperature Kit)	1
84	h	1346151	Harness, RH	1
85		....	Distributor	1

☞ Figure 96 And Figure 97

a Gasoline
b LPG
c Monotrol Pedal
d Forward/Reverse Lever
e Powershift
f Oil Clutch
g Included in Major Tune-Up Kit 996340 And 996342
h Included in Major Tune-Up Kit 996337

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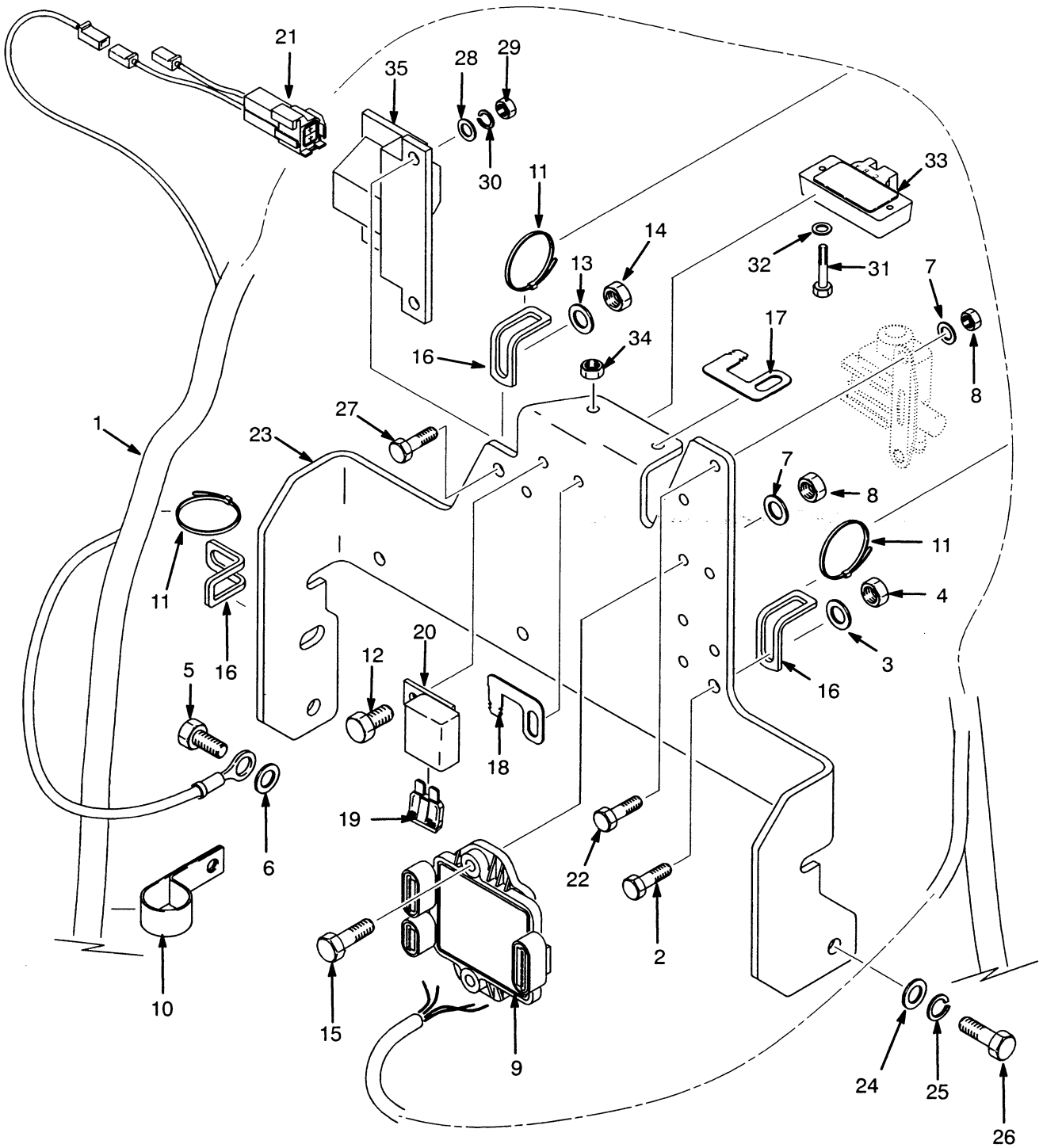
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ELECTRICAL (FIGURE 90)

LPG

FIRST USED ON S/N G005D-13154



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ELECTRICAL

LPG

FIRST USED ON S/N G005D-13154

Ref		Part No.	Name Of Part	Qty
1		2035710	Wire Harness (LPG)	1
2		136681	Capscrew	1
3		320158	Washer	1
4		302400	Nut	1
5		16805	Capscrew	1
6		15156	Washer	1
7		320156	Washer	4
8		302399	Nut	4
9		8504287	MSTS Controller Assy	1
9		1459032	MSTS Controller	1
9	a	1357062	MSTS Controller (2100 RPM)	1
9	a	1357061	MSTS Controller (2300 RPM)	1
9	a	1357063	MSTS Controller (1900 RPM)	1
10		325897	Clamp	1
11		129563	Strap	AR
12		302247	Screw	2
13		320155	Washer	2
14		302398	Nut	2
15		292502	Capscrew	2
16		1385873	Strap	3
17		1376661	Clip	1
18		1339444	Clip	1
19		370647	Fuse (10 Amp)	2
20		1330293	Cover (Fuse)	1
21		1339403	Plug Assy	1
22		292501	Capscrew	2
23		1459272	Bracket	1
24		15134	Washer	3
25		15156	Washer	3
26		16805	Capscrew	3
27		176640	Capscrew	2
28		320158	Washer	2
29		239503	Nut	2
30		292681	Washer	2
31		302251	Screw	2
32		320155	Washer	2
33		1314387	MAP Sensor	1
34		302398	Nut	2
35		1386191	Ignition Coil Assy	1

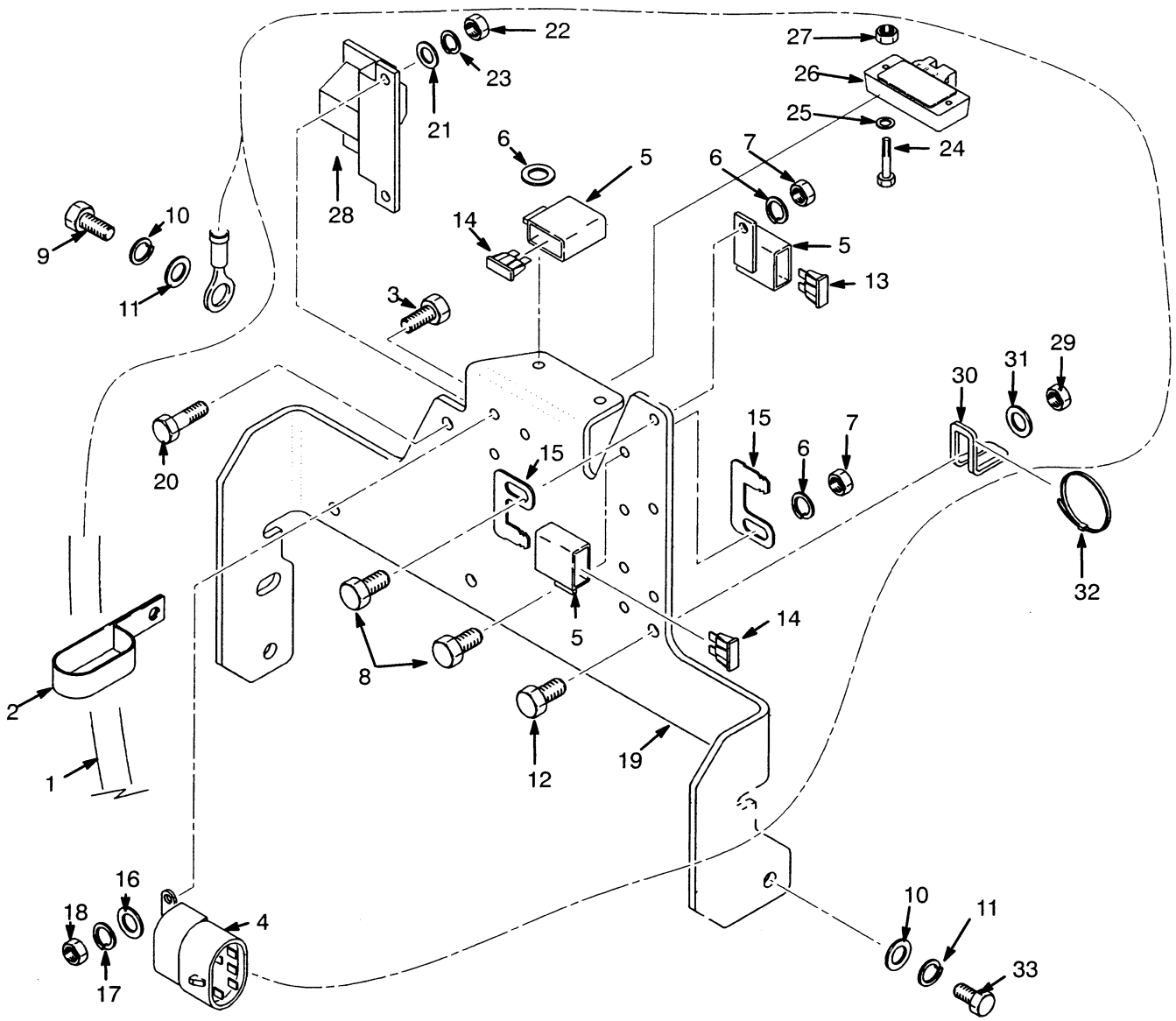
a Reduced Travel Speed Kits

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ELECTRICAL (FIGURE 91)

GASOLINE

FIRST USED ON S/N G005D-11942



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ELECTRICAL

GASOLINE

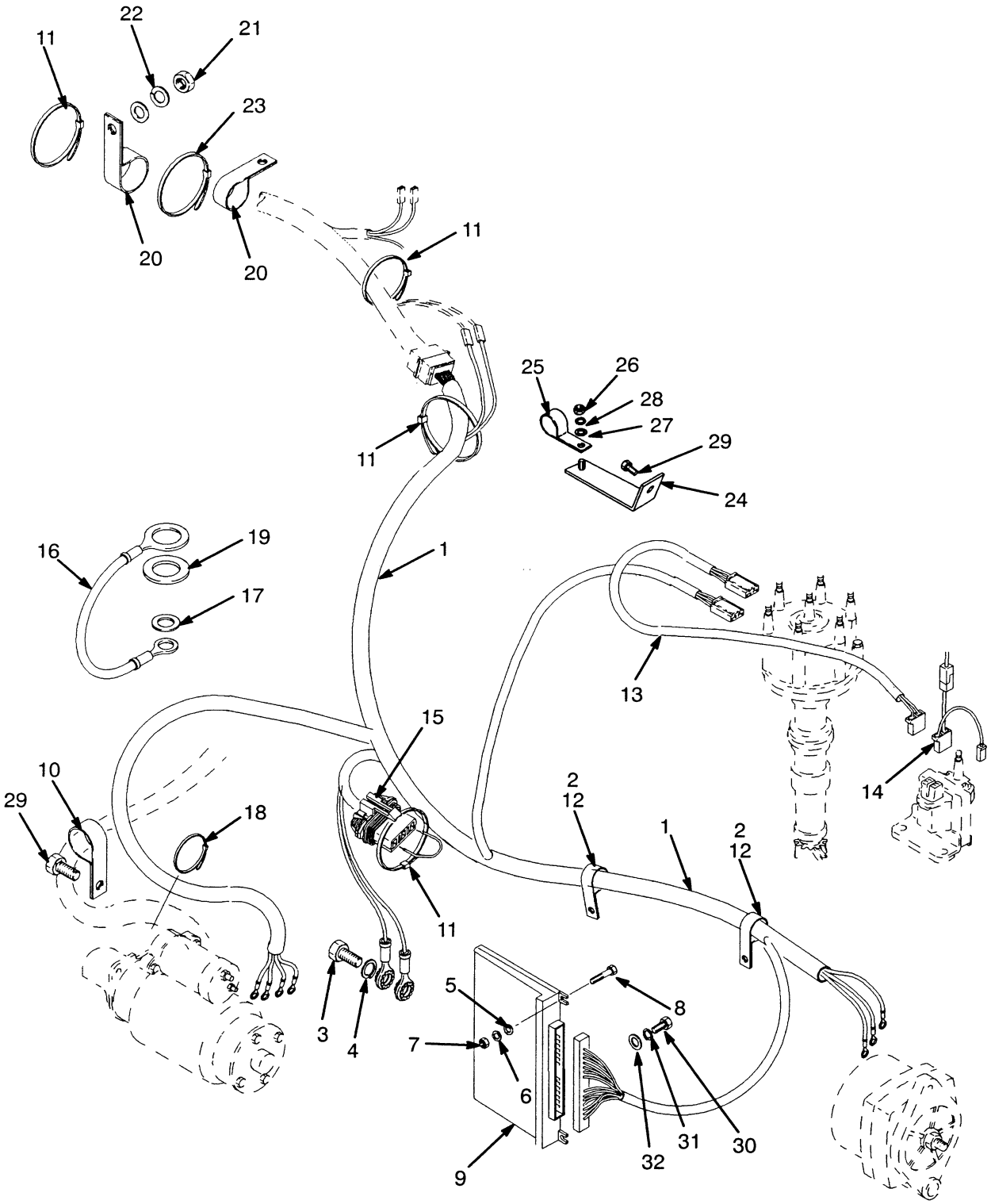
FIRST USED ON S/N G005D-11942

Ref	Part No.	Name Of Part	Qty
1	1383277	Wire Harness	1
2	325897	Clamp	1
3	287816	Capscrew	2
4	1330301	Relay (Fuel Pump)	1
5	1330293	Cover (Fuse)	3
6	320155	Washer	3
7	302398	Nut	2
8	302247	Screw	2
9	16598	Capscrew	1
10	15134	Washer	5
11	15156	Washer	7
12	136681	Capscrew	1
13	1337828	Fuse (3 Amp)	1
14	370647	Fuse (10 Amp)	2
15	1339444	Clip	2
16	320156	Washer	2
17	292680	Washer	2
18	136687	Nut	2
19	1459272	Bracket	1
20	176640	Capscrew	2
21	320158	Washer	2
22	239503	Nut	2
23	292681	Washer	2
24	302251	Screw	2
25	320155	Washer	2
26	1314387	MAP Sensor	1
27	302398	Nut	2
28	1386191	Ignition Coil Assy	1
29	302400	Nut	1
30	1385873	Clamp	1
31	320158	Washer	1
32	129563	Strap	AR
33	16805	Capscrew	3

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ENGINE CONTROL (FIGURE 92)

LPG



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ENGINE CONTROL

LPG

REF		PART NO.	NAME OF PART	QTY
1		....	Harness	1
			☞ Figure 116	
2		370281	Clamp	2
3		16805	Capscrew	1
4		15156	Lockwasher	1
5		320156	Washer	3
6		292680	Lockwasher	3
7		136687	Nut	3
8		292501	Capscrew	3
8	ac	1335000	Controller (MSTS)	1
9	d	1460765	Controller (MSTS)	1
9	bc	1383269	Controller (MSTS)	1
9	d	1460766	Controller (MSTS)	1
10		1337844	Clamp	1
11		273775	Strap Clamp	4
12		288394	Sealant	AR
13		275494	Conduit	AR
14		1339403	Plug Assembly (Coil)	1
15		1323584	Connector (Timing)	1
16		353145	Wire Assembly	1
17		296407	Washer	1
18		129563	Strap Clamp	2
19		296408	Washer	1
20		146047	Clamp	2
21		239503	Nut	1
22		292681	Lockwasher	1
23		114312	Clamp	1
24		1337841	Bracket	1
25		136516	Clamp	1
26		136692	Nut	1
27		320159	Washer	1
28		292682	Washer	1
29		292515	Capscrew	2
30		302243	Screw	1
31		292679	Lockwasher	1
32		320155	Flatwasher	1

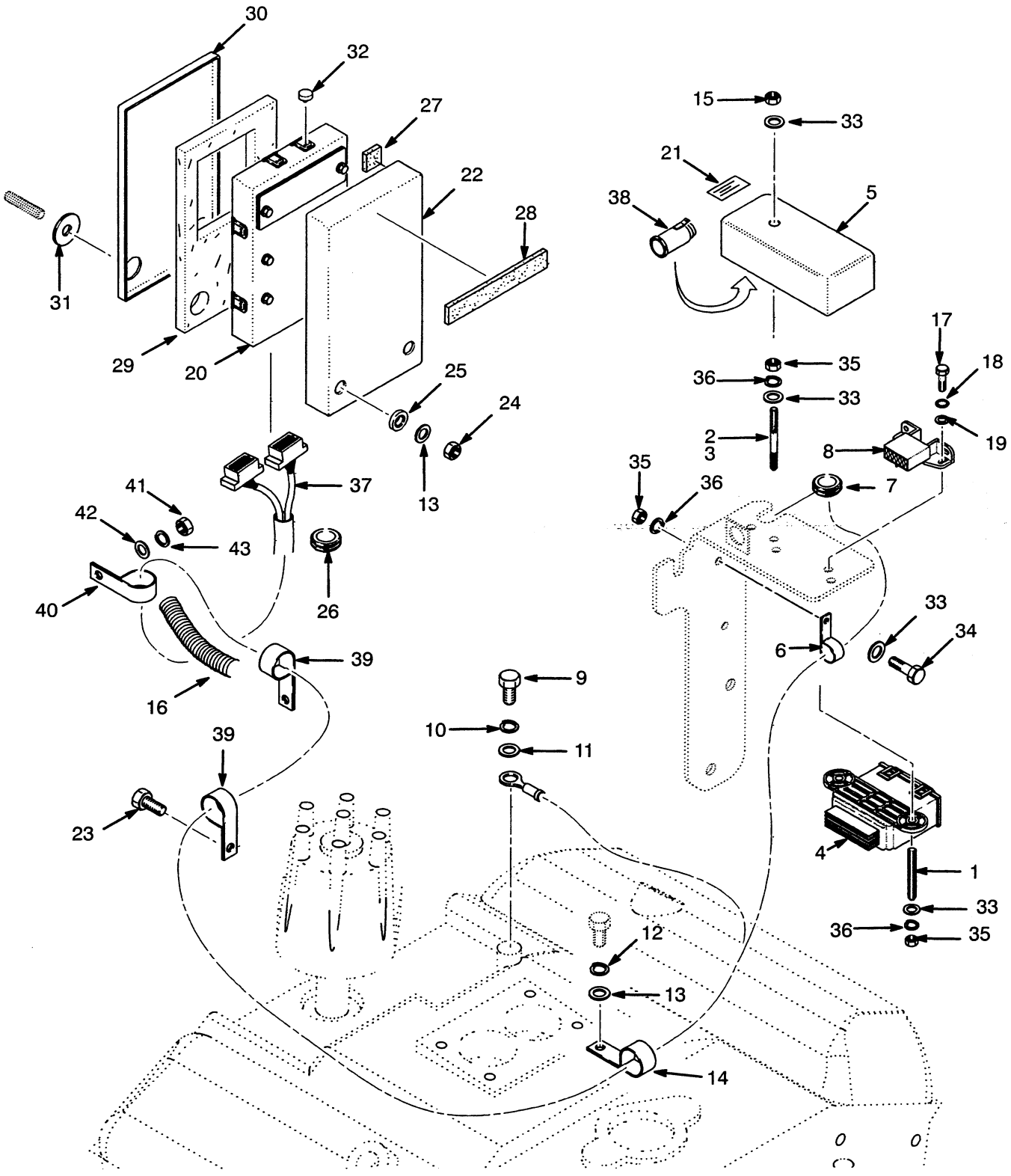
a 1995 5LM Series Engine
b 1996 6LX And 1997 7LX Series Engiine
c Last Used On S/N G005D-13153
d First Used On S/N G005D-13154

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ENGINE CONTROL (FIGURE 93)

GASOLINE

USED ON S/N G005D-13154 THRU G005D-14735, EXCEPT G005D-14584



ENGINE CONTROL

GASOLINE

USED ON S/N G005D-13154 THRU G005D-14735, EXCEPT G005D-14584

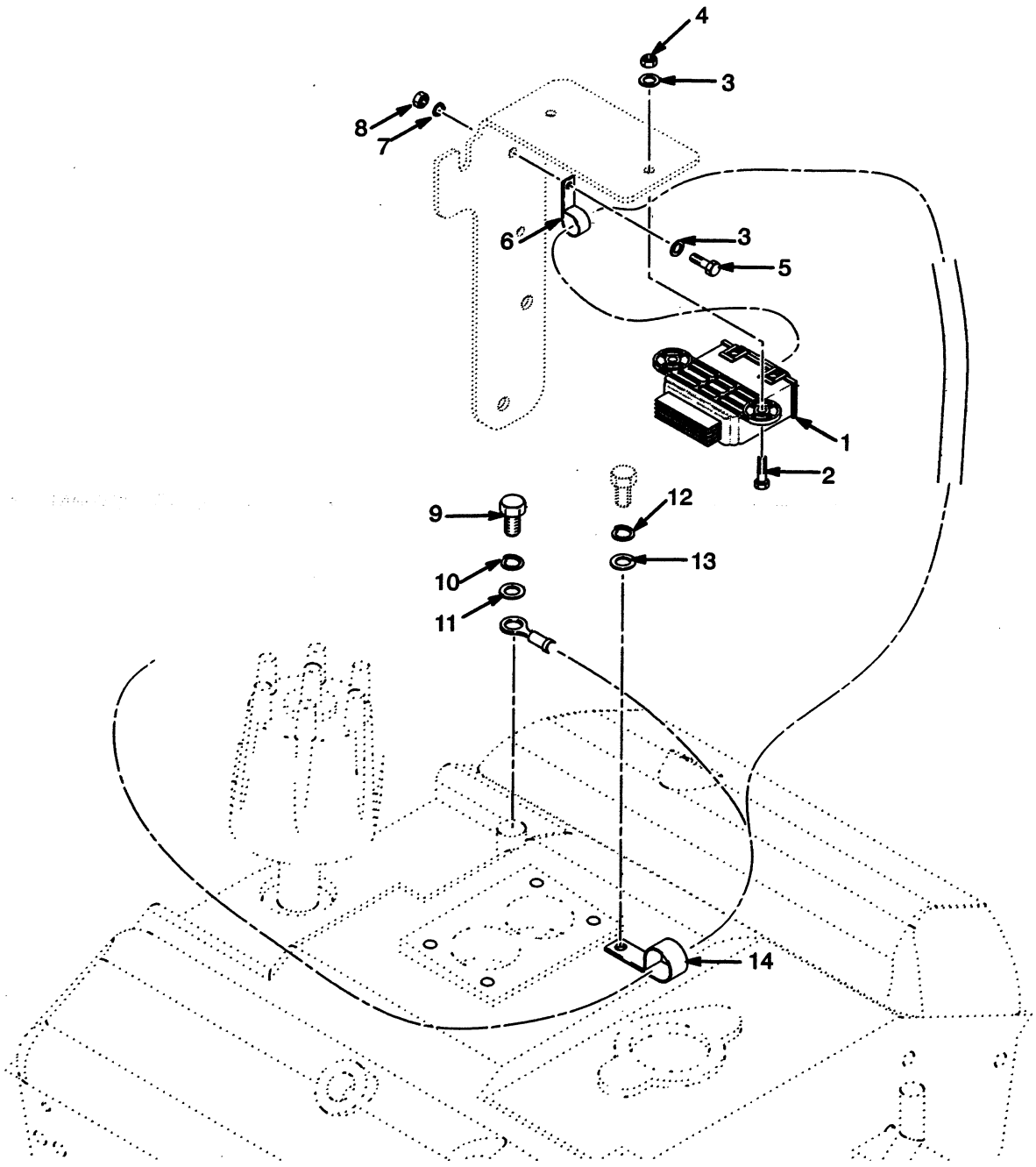
REF	PART NO.	NAME OF PART	QTY
1	1339463	Stud	1
2	1337799	Stud	1
3	251099	Sealant	AR
4	1327951	Module (Governor)	1
5	1339434	Cover	1
6	136516	Clamp	1
7	1337798	Grommet	1
8	1327956	Connector	1
9	18496	Capscrew	1
10	15155	Lockwasher	1
11	18515	Washer	1
12	15156	Lockwasher	2
13	15134	Washer	4
14	124359	Clamp	1
15	302399	Nut	1
16	275498	Conduit	AR
17	220489	Screw	2
18	15916	Lockwasher (Toothed)	2
19	197067	Washer	2
20	1383299	ECM Assembly	1
21	1339459	Label	AR
22	1334983	Housing (ECM)	1
23	292515	Capscrew	1
24	230886	Nut	2
25	185793	Isolator	2
26	1345988	Grommet	1
27	1345985	Isolator	4
28	1336865	Isolator	1
29	1345984	Pad	1
30	1345983	Cover	1
31	1345987	Washer	1
32	1345986	Bumper	6
33	320156	Washer	4
34	287816	Capscrew	1
35	136687	Nut	3
36	292680	Lockwasher	3
37	1383275	Wire Harness	1
37	1450037	Wire Harness (GS)	1
38	1339436	Power Connector	1
39	128408	Clamp	2
40	89220	Clamp	1
41	136692	Nut	1
42	320159	Washer	1
43	292682	Lockwasher	1

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ENGINE CONTROL (FIGURE 94)

GASOLINE

FIRST USED ON S/N G005D-14736, INCLUDING G005D-14584



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ENGINE CONTROL

GASOLINE

FIRST USED ON S/N G005D-14736, INCLUDING G005D-14584

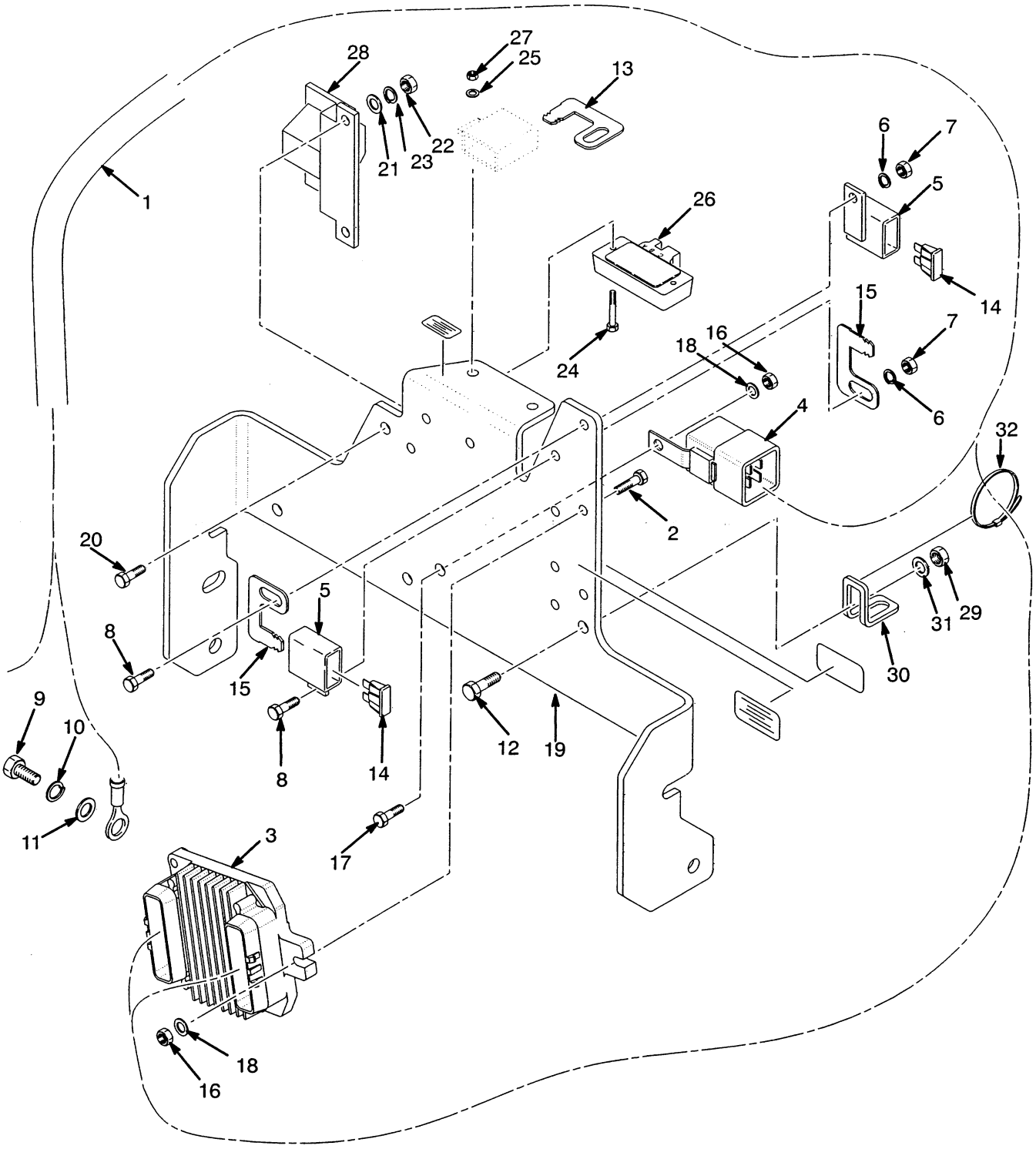
REF	PART NO.	NAME OF PART	QTY
1	1327951	Module (Governor)	1
2	292501	Screw	2
3	320156	Washer	4
4	302399	Nut	2
5	287816	Capscrew	1
6	164488	Clamp	1
7	292680	Lockwasher	1
8	136687	Nut	1
9	18496	Capscrew	1
10	15155	Lockwasher	1
11	18515	Washer	1
12	15156	Lockwasher	2
13	15134	Washer	4
14	124359	Clamp	1

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ENGINE CONTROL, CONTINUED (FIGURE 95)

GASOLINE

FIRST USED ON S/N G005D-14736, INCLUDING G005D-14584



ENGINE CONTROL, CONTINUED

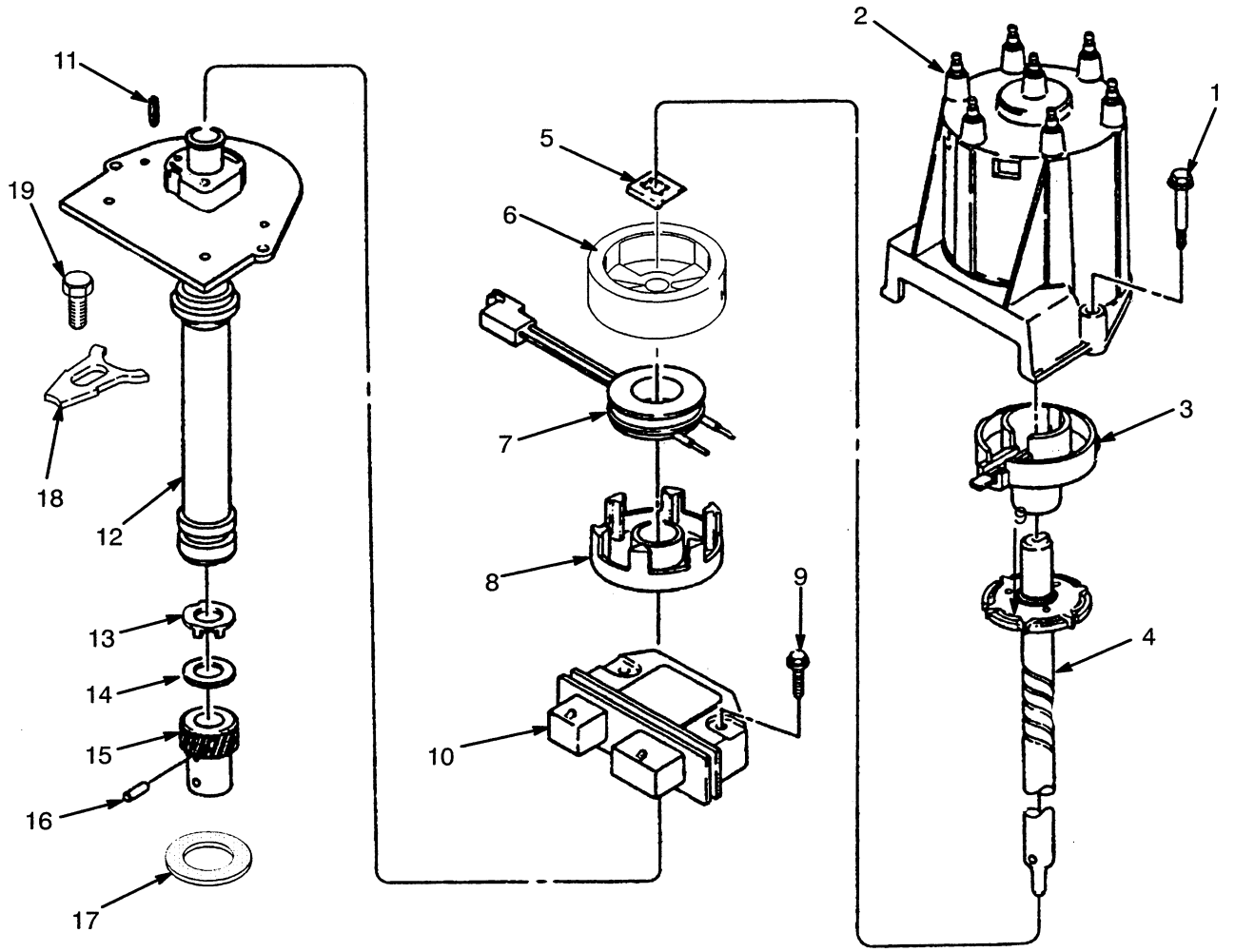
GASOLINE

FIRST USED ON S/N G005D-14736, INCLUDING G005D-14584

Ref	Part No.	Name Of Part	Qty
1	2036694	Wire Harness (Gasoline)	1
		☞ Figure 115	
2	292502	Screw	3
3	2036699	Electronic Control Module Assy	1
4	1461743	Relay (Fuel Pump)	1
5	1330293	Cover (Fuse)	2
6	320155	Washer	2
7	302398	Nut	2
8	302247	Screw	2
9	16598	Capscrew	1
10	15134	Washer	2
11	15156	Washer	2
12	136681	Capscrew	1
13	1376661	Clip	1
14	370647	Fuse (10 Amp)	2
15	1339444	Clip	2
16	302399	Nut	3
17	292501	Screw	3
18	320156	Washer	3
19	1460774	Bracket	1
20	176640	Capscrew	2
21	320158	Washer	1
22	239503	Nut	2
23	292681	Washer	2
24	302251	Screw	2
25	320155	Washer	2
26	1314387	MAP Sensor	1
27	302398	Nut	2
28	1386191	Ignition Coil Assy	1
29	302400	Nut	1
30	1385873	Clamp	1
31	320158	Washer	1
32	129563	Strap	AR

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DISTRIBUTOR (FIGURE 96)



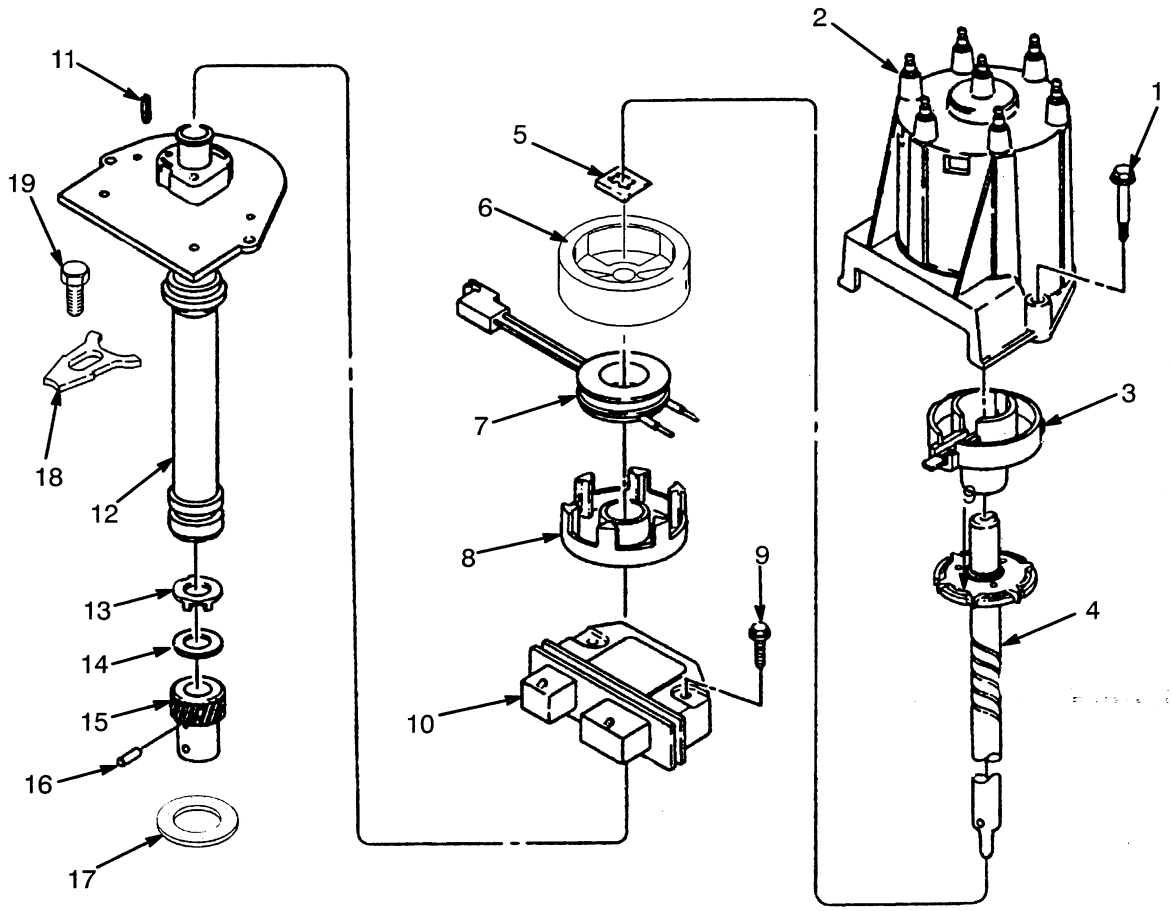
KEY:
A: 2KM 1992 Series Engine
B: 3KM 1993 And 5LM 1995 Series Engine

REF		PART NO.	NAME OF PART	QTY A	QTY B
		1342627	Distributor	1	..
		1371235	Distributor	..	1
1		1334401	Screw	1	1
2	a	1342528	Cap	1	1
3	a	1342529	Rotor	1	1
4		1342530	Shaft Assembly	1	1
5		1342535	Retainer	1	1
6		1342534	Shield	1	1
7		1342533	Coil	1	1
8		1342536	Pole (Stationary)	1	1
9		1334408	Bolt	2	2
10		1342531	Module	1	1
11		1334410	Pin	1	1
12		1342532	Housing	1	1
13		274403	Tang Washer	1	1
14		1342525	Washer	1	1
15		1342526	Gear	1	1
16		19870	Pin	1	1
17		1334423	Gasket	1	1
18		301966	Clamp	1	1
19		375597	Bolt	1	1

a Included In Major Tune-Up Kits 996211 And 996337 And 996340

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DISTRIBUTOR (FIGURE 97)



KEY:
A: 4LM 1994 Series Engine
B: 6LX 1996, 7LX 1997 8LX 1998, 9LX 1999, And 2000 Series Engine

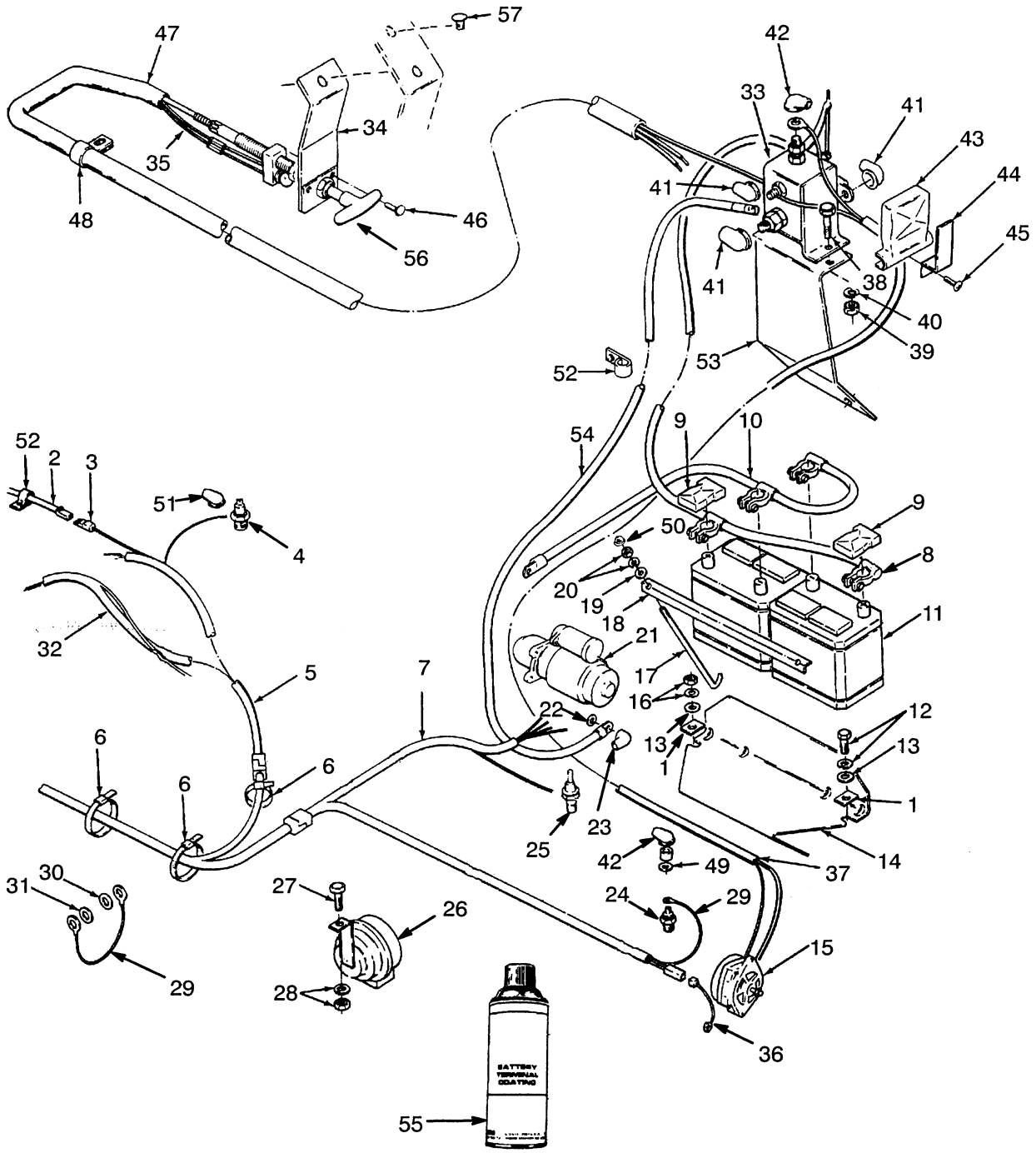
REF	PART NO.	NAME OF PART	QTY A	QTY B
	1374322	Distributor	1	..
	1450869	Distributor	..	1
1	1334401	Screw	2	2
2	1342528	Cap	1	..
2	1451315	Cap	..	1
3	1374329	Rotor	1	1
4	1374328	Shaft Assembly	1	1
5	1334406	Retainer	1	1
6	1342534	Shield	1	1
7	1374331	Coil	1	1
8	1374330	Pole (Stationary)	1	1
9	1334408	Bolt	2	2
10	1374332	Module	1	1
11	1334410	Pin	1	1
12	1374333	Housing	1	1
13	274403	Washer	1	1
14	1342525	Washer	1	1
15	1342526	Gear	1	..
15	1451316	Gear	..	1
16	19870	Pin	1	1
17	1334423	Gasket	1	1
18	301966	Clamp	1	1
19	375597	Bolt	1	1

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ELECTRICAL SYSTEM (FIGURE 98)

DIESEL

LAST USED ON S/N G005D-13393



ELECTRICAL SYSTEM

DIESEL

LAST USED ON S/N G005D-13393

KEY:
A: Oil Clutch
B: Powershift With Monotrol Pedal
C: Powershift With Forward/Reverse Lever

REF		PART NO.	NAME OF PART	QTY A	B	C
1		389109	Washer	2	2	2
2		....	Wire Harness	..	1	..
			☞ Figure 135			
3		181045	Connector	..	2	..
4		190252	Switch (Oil Pressure)	1	..	..
5		1309090	Harness	1	..	..
6		129563	Strap/Clamp	4	5	4
7		1322637	Harness	1	1	1
8	b	350141	Battery Cable (Positive)	1	1	1
8	a	1310556	Battery Cable (Positive)	1	1	1
9		257241	Boot	2	2	2
10	b	381922	Battery Cable (Negative)	1	1	1
10	a	1310557	Battery Cable (Negative)	1	1	1
11		1383331	Battery (Wet)	2	2	2
11		146938	Battery (Wet) (Optional)	2	2	2
11		177894	Battery (Dry)	2	2	2
12		329067	Screw	1	1	1
12		292681	Lockwasher	2	2	2
13		320158	Lockwasher	2	2	2
14		1333805	Tray	1	1	1
15		....	Alternator	1	1	1
			☞ Figure 102 Thru Figure 105			
16		239503	Nut	1	1	1
16		320157	Washer	1	1	1
17		309124	Link	2	2	2
18		352597	Holder	1	1	1
19		292680	Lockwasher	2	2	2
20		320156	Washer	2	2	2
20		136687	Nut	2	2	2
21		....	Starter	1	1	1
			☞ Figure 111			
22		292682	Lockwasher	1	1	1
23		204223	Boot	1	1	1
24		1319175	Sender (Temperature)	1	1	1
25		190252	Switch (Pressure)	1	1	1
26		1383778	Horn	1	1	1
27		136749	Capscrew	1	1	1
28		292681	Lockwasher	1	1	1
28		239503	Nut	1	1	1
29		353145	Wire	1	1	1
30		296407	Washer	1	1	1
30		296361	Lockwasher (Optional)	1	1	1
31		296408	Washer	1	1	1
32		1312682	Harness	..	..	1
32		1312681	Harness	..	1	..
33	ab	353305	Switch	1	1	1
34	a	353256	Bracket	1	1	1
35	ab	353306	Wire	1	1	1
36	ab	353257	Wire	1	1	1
37	ad	1450027	Harness (Without Low Emissions)	1	1	1
37	d	1322637	Harness (Without Low Emissions)	1	1	1
37	e	1453666	Harness (With Low Emissions)	1	1	1
37	ae	1453665	Harness (With Low Emissions)	1	1	1
38	a	292501	Capscrew	3	3	3
39	a	136687	Nut	3	3	3
40	a	292680	Lockwasher	3	3	3
41	a	204223	Boot	AR	AR	AR
42	a	190383	Boot	AR	AR	AR
43	ab	257241	Boot	1	1	1
44	ab	111763	Clamp	1	1	1
45	ab	134102	Screw	1	1	1
46	ab	17173	Rivet	2	2	1
47	ab	275496	Conduit	AR	AR	AR
48	ab	273775	Clamp	8	8	8
49	a	18500	Washer	AR	AR	AR
50		1326939	Cap	2	2	2
51	a	190383	Boot	3	3	3
52		132972	Clamp	1	1	1
53	ac	377379	Bracket	1	1	1
54	a	1310557	Cable	1	1	1
55		178296	Battery Terminal Coating	AR	..	..
56		1392552	Cable (Battery Disconnect)	1	1	1
57		309663	Plug	1	1	1

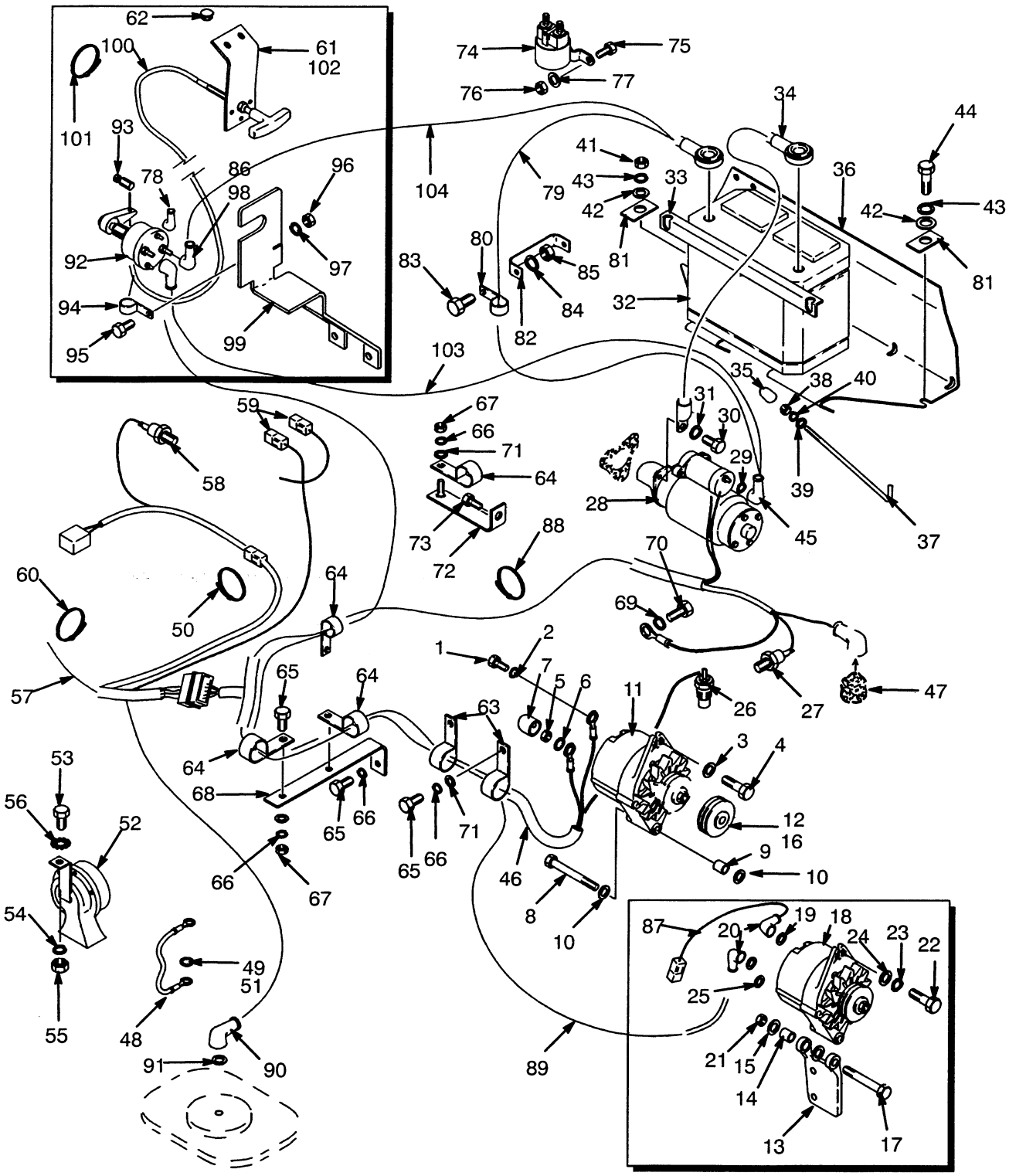
a Type DS
b Last Used On S/N G005D-8580
c First Used On S/N G005D-8581
d Last Used On S/N G005A-10666
e First Used On S/N G005A-10667

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ELECTRICAL SYSTEM (FIGURE 99)

DIESEL

FIRST USED ON S/N G005D-13394



ELECTRICAL SYSTEM

DIESEL

FIRST USED ON S/N G005D-13394

KEY:
A: Oil Clutch
B: Powershift With Monotrol Pedal
C: Powershift With Forward/Reverse Lever

REF		PART NO.	NAME OF PART	QTY A	B	C
1		136681	Capscrew	1	1	1
2		292681	Lockwasher	1	1	1
3		350818	Washer	1	1	1
4		329067	Screw	1	1	1
5		136687	Nut	1	1	1
6		296359	Lockwasher	1	1	1
7		157065	Boot	1	1	1
8		292523	Capscrew	1	1	1
9		1345014	Sleeve	1	1	1
10		1318306	Washer	2	2	2
11		....	Alternator	2	2	2
			☞ Figure 104			
12		1310277	Pulley	1	1	1
13	a	1345024	Bracket	1	1	1
14	a	1306216	Sleeve	1	1	1
15	a	1318306	Washer	2	2	2
16	a	1392220	Pulley	1	1	1
17	a	18546	Capscrew	1	1	1
18	a	....	Alternator	1	1	1
			☞ Figure 106			
19	a	18500	Washer	2	2	2
20	a	190383	Boot	2	2	2
21	a	139743	Nut	1	1	1
22	a	18497	Capscrew	1	1	1
23	a	18515	Washer	1	1	1
24	a	15155	Washer	1	1	1
25	a	15127	Washer	1	1	1
26		1319175	Temperature Sender	1	1	1
26		246108	Sealant	AR	AR	AR
27		190252	Pressure Switch	1	1	1
28		....	Starter	1	1	1
			☞ Figure 111			
29		292682	Lockwasher	1	1	1
30		16828	Capscrew	3	3	3
30		16815	Capscrew	3	3	3
31		15156	Washer	3	3	3
31		264159	Adhesive	AR	AR	AR
32		379596	Battery (Wet)	1	1	1
33		1459742	Hold Down (Battery)	1	1	1
34		1459774	Battery Cable (Negative)	1	1	1
35		1326939	Cap	2	2	2
36		1459741	Battery Tray	1	1	1
37		309124	Link	2	2	2
38		136687	Nut	2	2	2
39		320166	Washer	2	2	2
40		292680	Lockwasher	2	2	2
41		239503	Nut	1	1	1
42		320158	Washer	2	2	2
43		292681	Lockwasher	2	2	2
44		329067	Screw	1	1	1
45		204223	Boot	1	1	1
46	a	1452866	Engine Harness	1	1	1
46		1452865	Engine Harness	1	1	1
47		322784	Compound	AR	AR	AR
48		353145	Ground Wire	1	1	1
49		296407	Washer	1	1	1
49		296361	Washer (Optional)	1	1	1
50		129563	Strap Clamp	4	4	4
51		296408	Washer	1	1	1
52		1383778	Horn	1	1	1
53		136749	Capscrew	1	1	1
54		292681	Lockwasher	1	1	1
55		239503	Nut	1	1	1
56		296406	Washer	1	1	1
57		1309090	Harness (Neutral Start)	1	..	..
57		1312681	Harness (Neutral Start)	..	1	..
57		1312682	Harness (Neutral Start)	..	..	1
58		190252	Pressure Switch (N.C.)	1	..	..
59		181045	Connector	..	2	..
60		129663	Strap Clamp	..	1	..
61	a	353256	Bracket	1	1	1
62	a	309663	Plug	1	1	1
63		128408	Clamp	2	2	2
64		298132	Clamp	4	4	4
65		292514	Capscrew	5	5	5

a Type DS

Continued On Next Page

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ELECTRICAL SYSTEM

DIESEL

FIRST USED ON S/N G005D-13394

KEY:
A: Oil Clutch
B: Powershift With Monotrol Pedal
C: Powershift With Forward/Reverse Lever

REF		PART NO.	NAME OF PART	QTY A	B	C
66		292682	Lockwasher	6	6	6
67		136692	Nut	3	3	3
68		1455154	Bracket	1	1	1
69		292681	Lockwasher	1	1	1
70		287851	Capscrew	1	1	1
71		320159	Washer	3	3	3
72		1337841	Bracket	1	1	1
73		292515	Capscrew	1	1	1
74		1454967	Relay	1	1	1
75		292500	Capscrew	2	2	2
76		313805	Nut	4	4	4
77		320156	Washer	4	4	4
78		190382	Boot	2	2	2
79		1459773	Battery Cable (Positive)	1	1	1
80		132972	Clamp	1	1	1
81		389109	Washer	2	2	2
82		1379499	Bracket	1	1	1
83		292500	Capscrew	1	1	1
84		292680	Lockwasher	1	1	1
85		136687	Nut	1	1	1
86	a	190383	Boot	3	3	3
87	a	353257	Wire Assy	1	1	1
88	a	129563	Strap Clamp	6	6	6
89	a	1450018	Harness (Disconnect Switch)	1	1	1
90	a	190383	Boot	2	2	2
91	a	18500	Washer	2	2	2
92	a	1324518	Switch	1	1	1
93	a	154565	Wire-Stop	1	1	1
94	a	1329910	Clamp	1	1	1
95	a	292501	Capscrew	1	1	1
96	a	136687	Nut	1	1	1
97	a	292680	Lockwasher	1	1	1
98	a	204223	Boot	2	2	2
99	a	1454977	Bracket	1	1	1
100	a	1392552	Control Cable	1	1	1
101	a	129563	Strap Clamp	2	2	2
102	a	1324480	Label-Battery Switch	1	1	1
103	a	111722	Battery Cable (Positive)	1	1	1
104	a	1459775	Battery Cable (Positive)	1	1	1

a Type DS

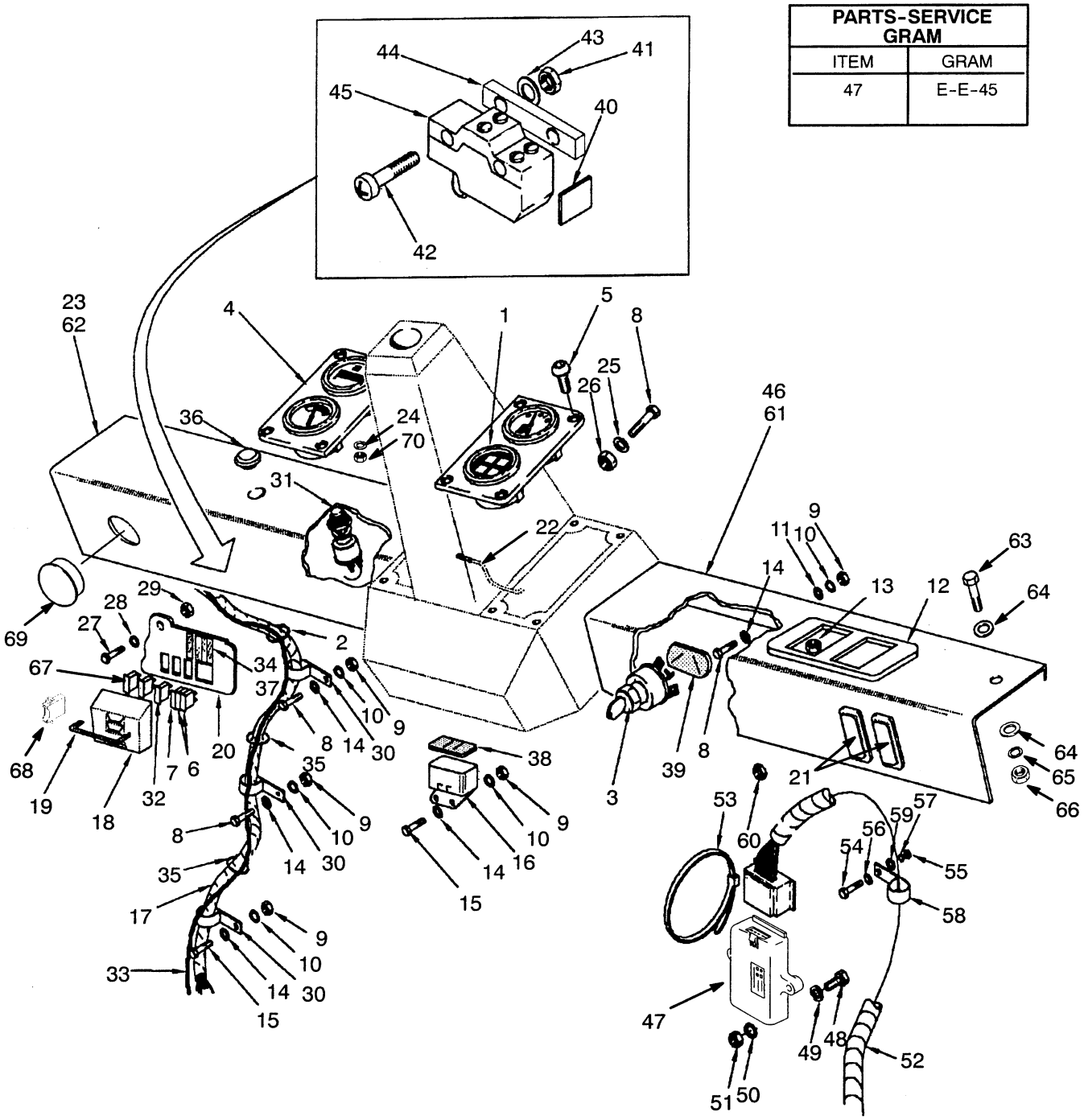
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NOTES

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INSTRUMENT PANEL (FIGURE 100)

PARTS-SERVICE GRAM	
ITEM	GRAM
47	E-E-45



INSTRUMENT PANEL

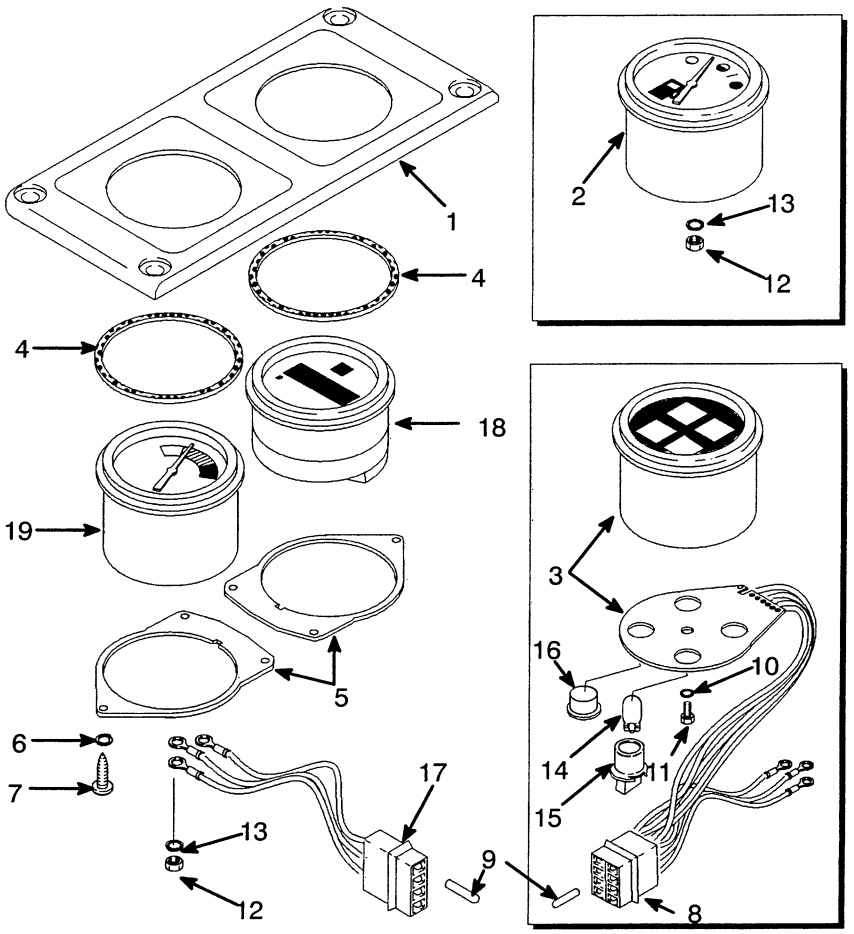
REF	PART NO.	NAME OF PART	QTY
1	....	Gauge Cluster, RH	1
		☞ Figure 101	
2	137852	Strap Clamp	1
3	379902	Switch (Ignition)	1
3	1337197	Key	2
4	....	Gauge Cluster, LH	1
		☞ Figure 101	
5	370676	Screw And Nut	8
6	370646	Fuse (5 Amp, Older Units)	2
7	1310630	Fuse (15 Amp)	1
8	292502	Capscrew	6
9	136687	Nut	8
10	292680	Lockwasher	8
11	197068	Washer	3
12	352985	Bezel	1
13	352987	Nut	2
14	296359	Washer	8
15	292501	Capscrew	6
16	157554	Horn Relay	1
17	.....	Harness (Main Instrument)	1
		☞ Figure 118	
18	370863	Cover	1
19	370864	Latch	1
20	1337886	Bracket (Gasoline And LPG)	1
20	1320659	Bracket (Diesel)	1
21	374046	Plug	2
22	1346733	Wire	1
23	1343946	Panel, LH	1
24	16743	Washer	1
25	320156	Washer	2
26	302399	Nut	1
27	16836	Capscrew	1
28	15155	Washer	1
29	376397	Retainer	1
30	89220	Clamp	3
31	370776	Switch (Diesel)	1
32	370648	Fuse (20 Amp, Diesel)	1
33	1322652	Harness (Diesel, Cold Start Aid)	1
34	1323597	Label (Fuses, Diesel)	1
35	273775	Strap/Clamp (Diesel)	3
36	350498	Plug (Gasoline And LPG)	1
37	1383791	Label (Fuses, Gasoline And LPG)	1
38	272155	Cover, (Relay, Type GS, LPS, And DS)	1
39	379903	Cover	1
40	387869	Cover	2
41	15049	Nut (Monotrol Pedal)	2
42	123991	Screw (Monotrol Pedal)	2
43	138573	Lockwasher (Monotrol Pedal)	2
44	316132	Spacer (Monotrol Pedal)	1
45	370868	Switch (Monotrol Pedal)	1
46	1343948	Panel (Without Cab)	1
47	1357942	Controller (LPG) (2200 RPM)	1
47	1335001	Controller (LPG) (2500 RPM)	1
48	302250	Screw (LPG)	2
49	197067	Washer (LPG)	4
50	292679	Lockwasher (LPG)	2
51	292668	Nut (LPG)	2
52	....	Harness (Governor)	1
		☞ Figure 113	
53	114312	Strap Clamp (LPG)	1
54	292501	Capscrew (LPG)	1
55	136687	Nut (LPG)	1
56	296359	Washer (LPG)	1
57	292680	Lockwasher (LPG)	1
58	146047	Clamp (LPG)	1
59	320156	Washer (LPG)	3
60	302399	Nut (LPG)	1
61	1343949	Panel (RH, With Cab)	1
62	1343947	Panel (LH, With Cab)	1
63	1324996	Capscrew (With Cab)	1
64	1300117	Washer (With Cab)	4
65	292681	Lockwasher (With Cab)	2
66	239503	Nut (With Cab)	2
67	1300057	Fuse (7.5 Amp, Gasoline And LPG)	1
68	381846	Fuse Holder (Gasoline And LPG)	1
69	1331037	Plug	1

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NOTES

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GAUGE CLUSTER (FIGURE 101)



KEY:
A: Right Hand Side: Gasoline
B: Right Hand Side: Diesel
C: Right Hand Side: LPG
D: Left Hand Side

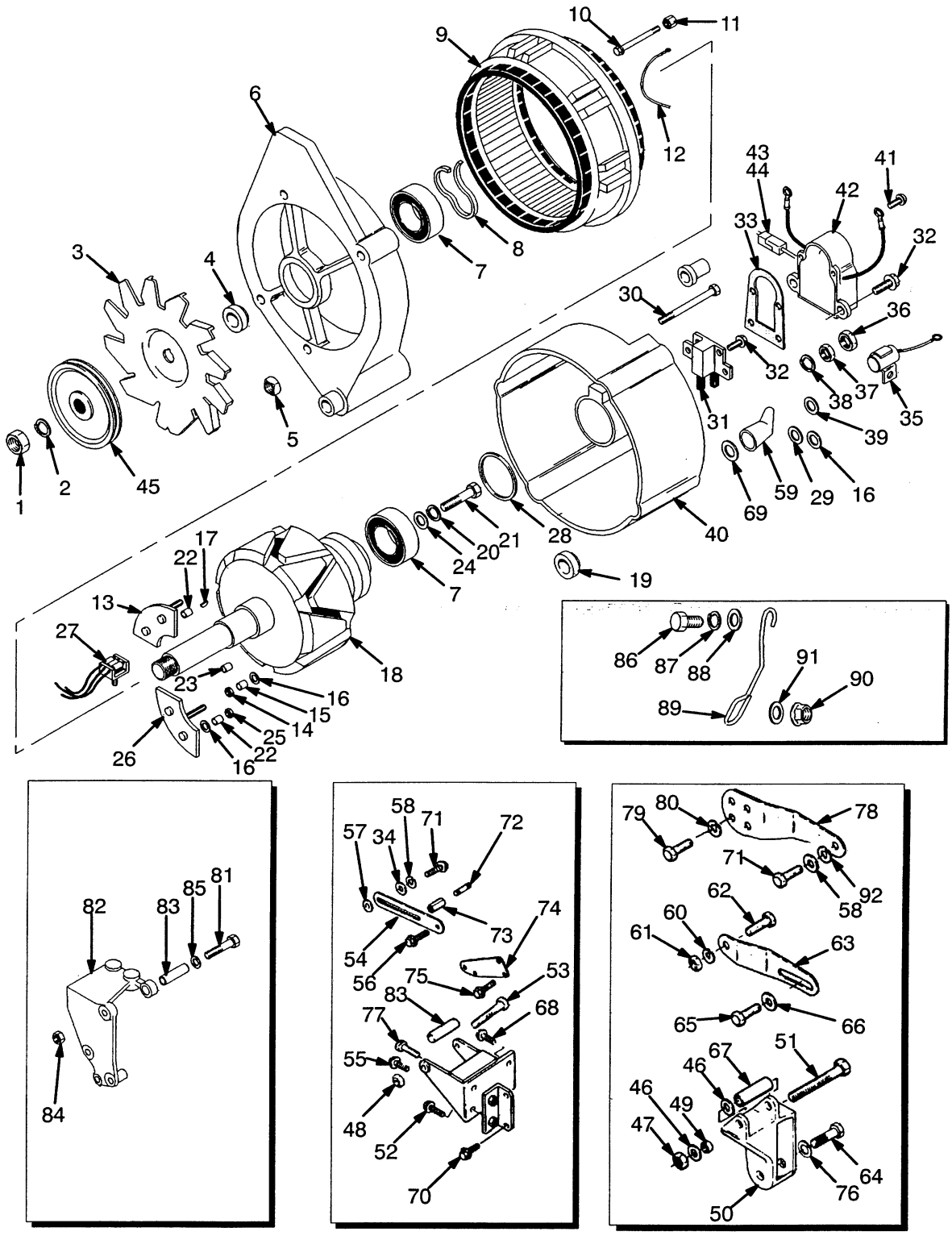
REF	PART NO.	NAME OF PART	QTY A	B	C	D
	1346708	Gauge Cluster	1	..	..	..
	1346745	Gauge Cluster	..	1	..	..
	370473	Gauge Cluster	..	..	1	..
	8504117	Gauge Cluster (Optional)	..	..	1	..
	1324313	Gauge Cluster	..	..	..	1
	8504095	Gauge Cluster (Optional)	..	..	..	1
1	1312473	Bezel	1	1	..	1
1	1312474	Bezel	..	..	1	..
1	1458291	Bezel	..	..	1	..
2	1312344	Gauge (Fuel)	1	1	..	..
3	1312345	Light Cluster And Harness	..	1	1	..
3	1347952	Light Cluster And Harness	1	..	..	..
4	1312339	Gasket	2	2	1	2
5	1312340	Bracket	2	2	1	2
6	18419	Lockwasher	6	6	3	6
7	227131	Screw	6	6	3	6
8	1317393	Connector	1	1	1	..
9	367966	Pin	8	6	5	3
10	15916	Lockwasher	1	1	1	..
11	185806	Screw	1	1	1	..
12	15049	Nut	3	3	..	3
13	16743	Lockwasher	3	3	..	3
14	1320001	Bulb	4	3	4	..
15	1317394	Socket	4	3	4	..
16	1312348	Plug	..	1	..	..
17	367953	Connector	..	..	..	1
18	1312337	Hourmeter	..	..	..	1
19	1329414	Gauge (Temperature)	..	..	..	1

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ALTERNATOR (FIGURE 102)

TYPES GS, LPS AND DS

LAST USED ON S/N G005D-10596



ALTERNATOR

TYPES GS, LPS, AND DS

LAST USED ON S/N G005D-10596

KEY:
A: Gasoline And LPG
B: Diesel

REF		PART NO.	NAME OF PART	QTY A	QTY B
		353273	Alternator	1	1
1		248147	Nut-Hex	1	1
2		246943	Lockwasher	1	1
3		248127	Fan	1	1
4		226580	Spacer-Fan	1	1
5		248148	Nut-Square	3	3
6		....	Housing	1	1
7		248128	Bearing	2	2
8		248129	Retainer (Detainer)	1	1
9		382633	Stator	1	1
10		255073	Bolt	1	1
11		226589	Insulator	1	1
12		382638	Cable	1	1
13		382635	Diode-Negative	1	1
14		15052	Nut-Hex	4	4
15		382644	Sleeve	1	1
16		248143	Washer	5	5
17		246944	Key	1	1
18		382632	Rotor	1	1
19		248137	Ring-Slip	1	1
20		246940	Washer	3	3
21		248149	Screw-Hex	1	1
22		248141	Sleeve-19/32	2	2
23		382643	Sleeve	1	1
24		15152	Lockwasher	3	3
25		382646	Nut	2	2
26		382636	Diode-Positive	1	1
27		382639	Diode-Field	1	1
28		382634	Retainer	1	1
29		382642	Washer	2	2
30		382641	Bolt	4	4
31		248134	Brush	1	1
32		246938	Screw	4	4
33		382637	Gasket	1	1
34		18515	Washer	1	1
35		382647	Capacitor	1	1
36		248145	Locknut	3	3
37		248146	Nut-Hex	2	2
38		246942	Lockwasher	2	2
39		382645	Insulator	1	1
40		....	Housing	1	1
41		18082	Capscrew	2	2
42		382640	Regulator	1	1
43		181046	Connector	1	1
44		134812	Connector	1	1
45	a	353294	Pulley	1	..
45	b	1377768	Pulley	1	..
45		353291	Pulley	..	1
46		261379	Washer	2	..
47		139743	Locknut	1	..
48		1307907	Nut	..	1
49		189338	Spacer	1	..
50	a	344351	Bracket	1	..
50	b	1377765	Bracket	1	..
51		18548	Capscrew	1	..
52		1307898	Screw	..	2
53		1307906	Screw	..	1
54		1306214	Lever	..	1
55		1307914	Screw	..	2
56		1307910	Screw	..	1
57		1310283	Spacer	..	1
58		15155	Lockwasher	1	1
59		190383	Cover	4	4
60	a	292682	Lockwasher	1	..

CONTINUED ON NEXT PAGE

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ALTERNATOR

TYPES GS, LPS, AND DS

LAST USED ON S/N G005D-10596

KEY:
A: Gasoline And LPG
B: Diesel

REF		PART NO.	NAME OF PART	QTY A	QTY B
61	a	136692	Nut	1	..
62	a	136985	Capscrew	1	..
63	a	344358	Strap	1	..
64		18547	Capscrew	2	..
65		176640	Capscrew	1	..
66		320157	Washer (Cone)	1	..
67		305100	Sleeve	1	..
68		1307908	Screw	..	1
69		18500	Washer	3	3
70		1307909	Screw	..	2
71		18497	Screw	1	1
72		1307911	Stud	..	1
73		1315498	Nut	..	1
74		1306215	Plate	..	1
75		1307913	Screw	..	1
76		292682	Lockwasher	2	..
77		1318968	Screw	..	2
78	b	1377747	Strap	1	..
79	b	287860	Capscrew	4	..
80	b	292682	Lockwasher	4	..
81		18546	Capscrew	..	1
82		1345024	Bracket	..	1
83		1306216	Sleeve	..	1
84		139743	Locknut	..	1
85		1318306	Washer	..	2
86		136681	Capscrew	..	1
86	a	136681	Capscrew	1	..
86	b	176640	Capscrew	1	..
87		292681	Lockwasher	1	1
88	b	320158	Washer	1	..
89	b	1377777	Brace	1	..
90	b	192077	Locknut	1	..
91	b	15176	Washer	1	..

a Last Used On S/N G005D-4577
b First Used On S/N G005D-4578

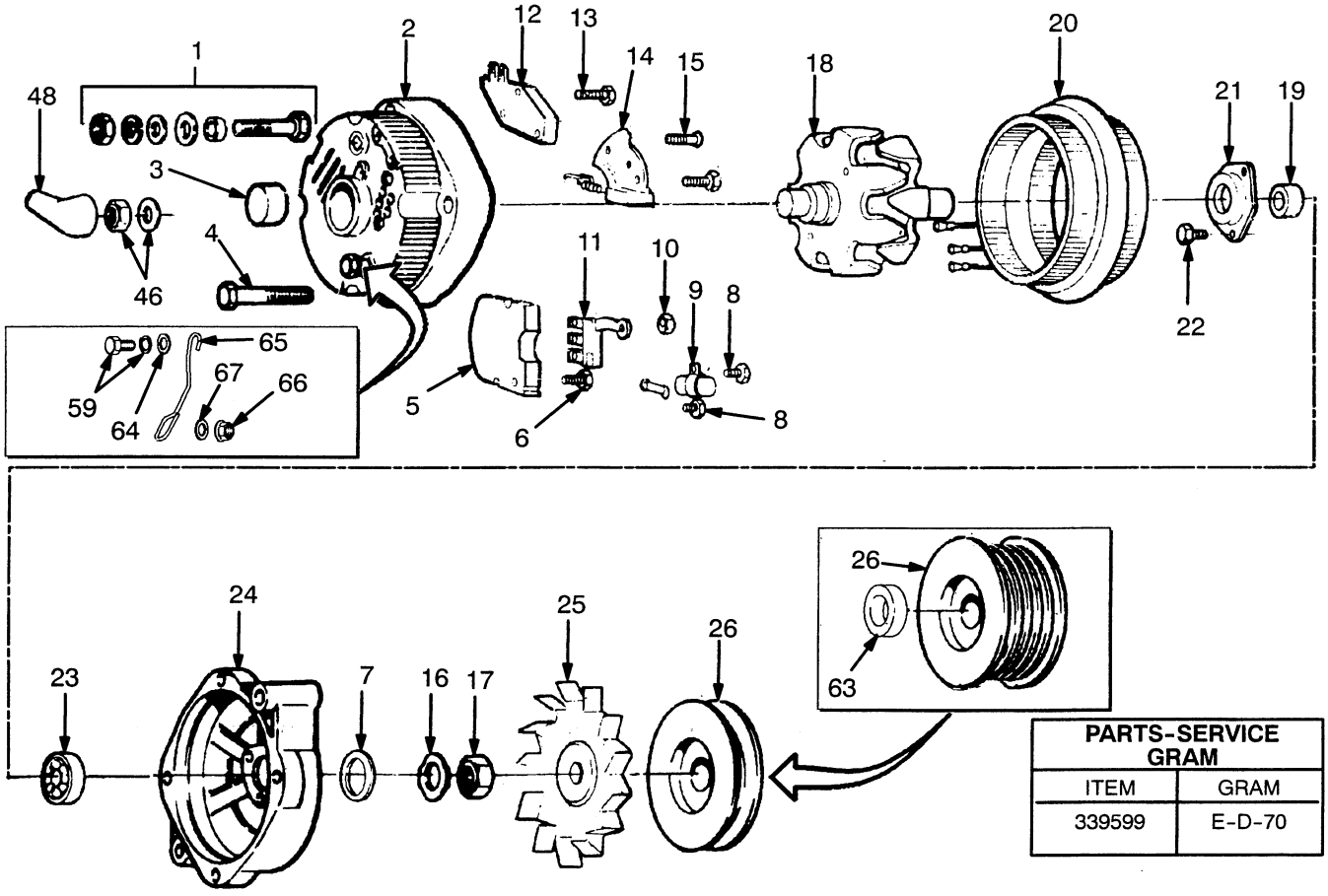
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NOTES

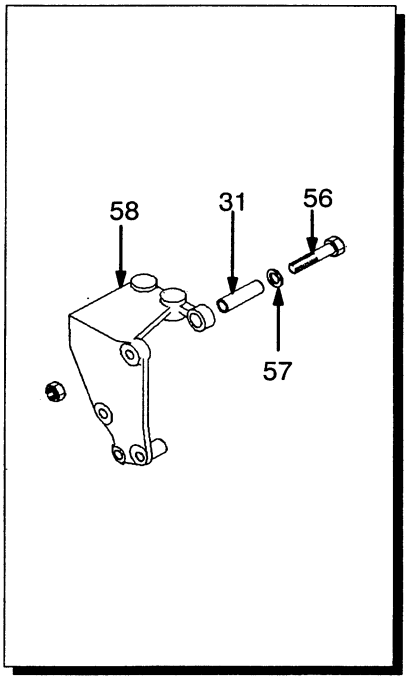
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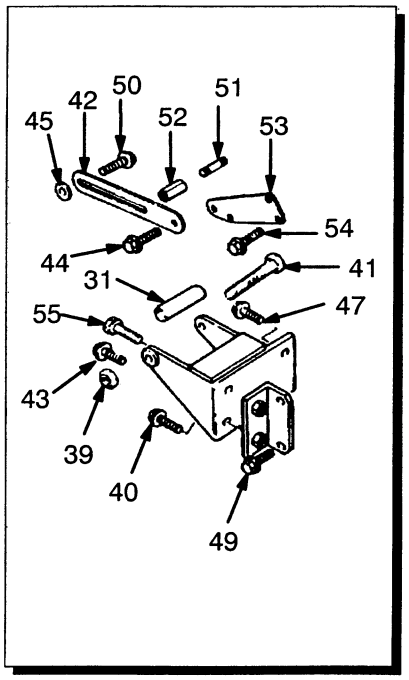
ALTERNATOR (FIGURE 103)

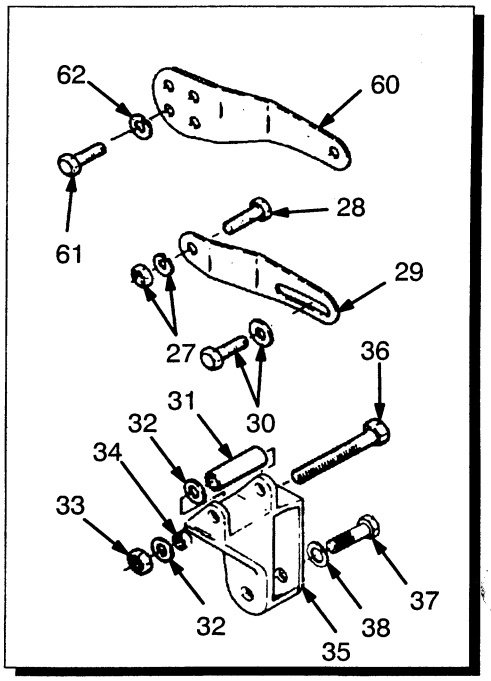
DELCO BRAND



PARTS-SERVICE GRAM	
ITEM	GRAM
339599	E-D-70







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ALTERNATOR

DELCO BRAND

KEY:
A: Gasoline And LPG
B: Diesel

REF		PART NO.	NAME OF PART	QTY A	QTY B
	ab	339599	Alternator	1	1
1	b	310081	Kit-Battery Terminal	1	1
2	b	343038	Frame (CE)	1	1
3	b	128838	Bearing	1	1
4	b	128852	Bolt	4	4
5	b	343031	Rectifier	1	1
6	b	343032	Screw And Washer	1	1
7	b	322177	Collar	1	1
8	b	198410	Screw	2	2
9	b	198401	Capacitor	2	2
10	b	15039	Nut	3	3
11	b	343040	Diode Trio	1	1
12	b	290303	Voltage Regulator	1	1
13	b	343042	Screw	1	1
14	b	343041	Brush Assy	1	1
14	b	334970	Brush Spring	2	2
15	b	268356	Screw	2	2
16	b	128835	Washer	1	1
17	b	55580	Nut	1	1
18	b	343046	Rotor	1	1
19	b	343029	Collar	1	1
20	b	343039	Stator	1	1
21	b	202003	Retainer	1	1
22	b	344234	Screw	3	3
23	b	290509	Bearing	1	1
24	b	343033	Frame (DE)	1	1
25	b	126358	Fan	1	1
26	c	208483	Pulley	1	..
26	d	1377751	Pulley	1	..
26		1310277	Pulley	..	1
27	c	136692	Nut	1	..
27	c	292682	Lockwasher	1	..
28	c	136985	Capscrew	1	..
29	c	344358	Strap	1	..
30		176640	Capscrew	1	..
30		320157	Washer	1	..
31		305100	Sleeve	1	..
31		1345014	Sleeve	..	1
32		261379	Washer	2	..
33		139743	Locknut	1	..
34		189338	Spacer	1	..
35	c	344351	Bracket	1	..
35	efh	1377765	Bracket	1	..
35	g	1383229	Bracket	1	..
36		18548	Capscrew	1	..
37		18549	Capscrew	1	..
38		292682	Lockwasher	2	..
39		1307907	Nut	..	1
40		1307898	Screw	..	2
41		1307906	Screw	..	1
42		1306214	Lever	..	1
43		1307914	Screw	..	2
44		1307910	Screw	..	1
45		296418	Washer	..	1
46		136687	Nut	1	1
46		296359	Washer	1	1
47		1307908	Screw	..	1
48		157065	Cover	1	1
49		1307909	Screw	..	2
50		1306358	Screw	..	1
51		1307911	Stud	..	1
52		1315498	Nut	..	1
53		1306215	Plate	..	1
54		1307913	Screw	..	1
55		1318968	Screw	..	2
56		292523	Capscrew	..	1
57		1318306	Washer	..	1
58		1345024	Bracket	..	1

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ALTERNATOR

DELCO BRAND

KEY:
A: Gasoline And LPG
B: Diesel

REF		PART NO.	NAME OF PART	QTY A	QTY B
59		136681	Capscrew	..	1
59	c	136681	Capscrew	1	..
59	d	176640	Capscrew	1	..
59		292681	Lockwasher	1	1
60	f	1377747	Strap	1	..
60	g	1389337	Strap	1	..
61	d	287860	Capscrew	4	..
62	d	292682	Lockwasher	4	..
63	d	1377738	Spacer	1	..
64	d	320158	Washer	1	..
65	d	1377777	Brace	1	..
66	d	192077	Locknut	1	..
67	d	15176	Washer	1	..

a Remanuafactured Alternator 3020077
b Last Used On S/N G005D-10278
c Last Used On S/N G005D-4577
d Used On S/N G005D-4578 thru G005D-7759 Including S/N 7830-7832, 7834-7837, 7840-And 7841, Except G005D-7710
e First Used On S/N G005D-7760, Except S/N G005D-7830-7832, 7834-7837, 7840-7841 Includes G005D-7710
f Last Used On S/N G005D-9571
g First Used On S/N G005D-9572
h Service With Kit 1389349

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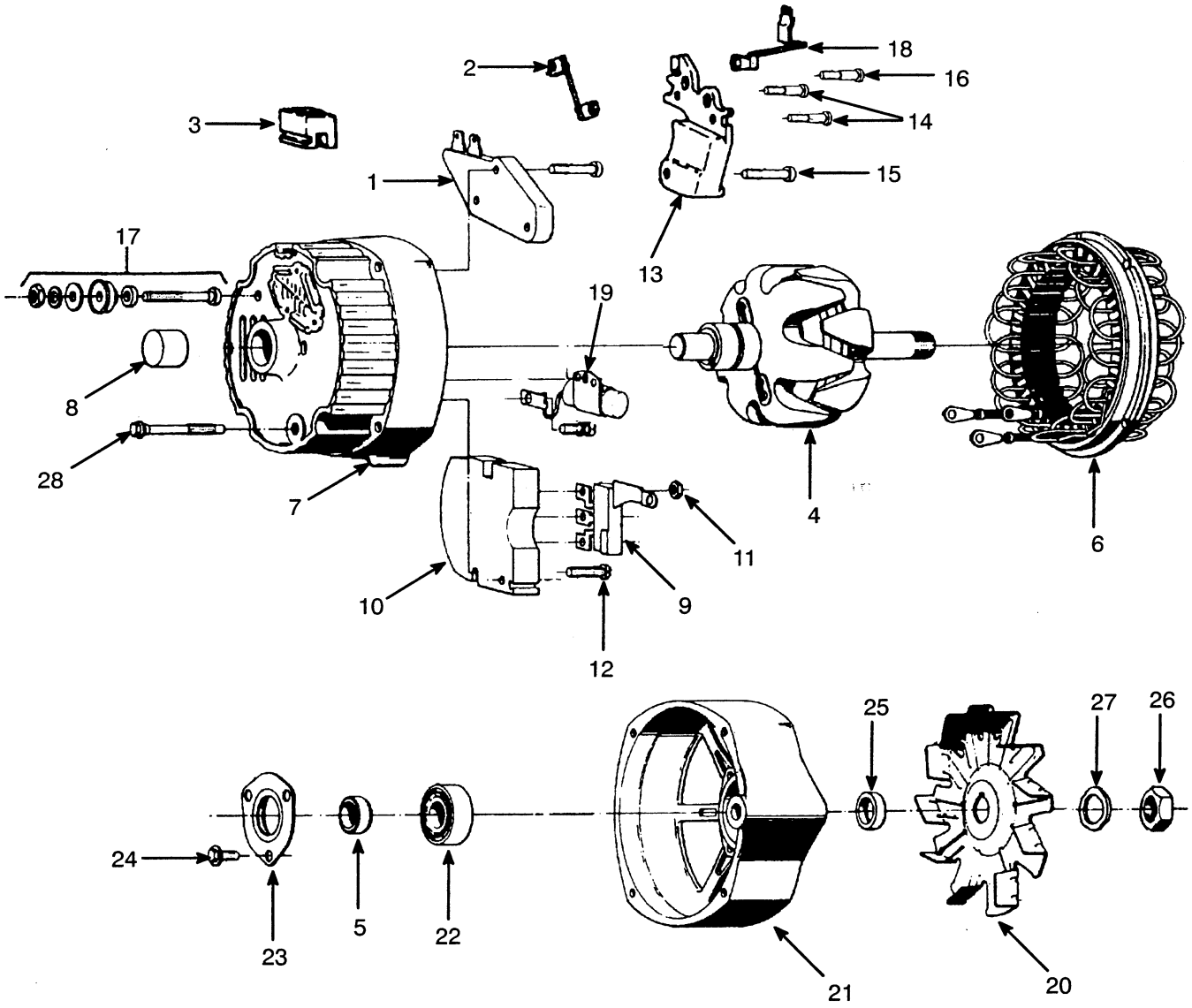
NOTES

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ALTERNATOR (FIGURE 104)

GASOLINE , LPG AND DIESEL

FIRST USED ON S/N G005D-10279



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ALTERNATOR

GASOLINE, LPG AND DIESEL

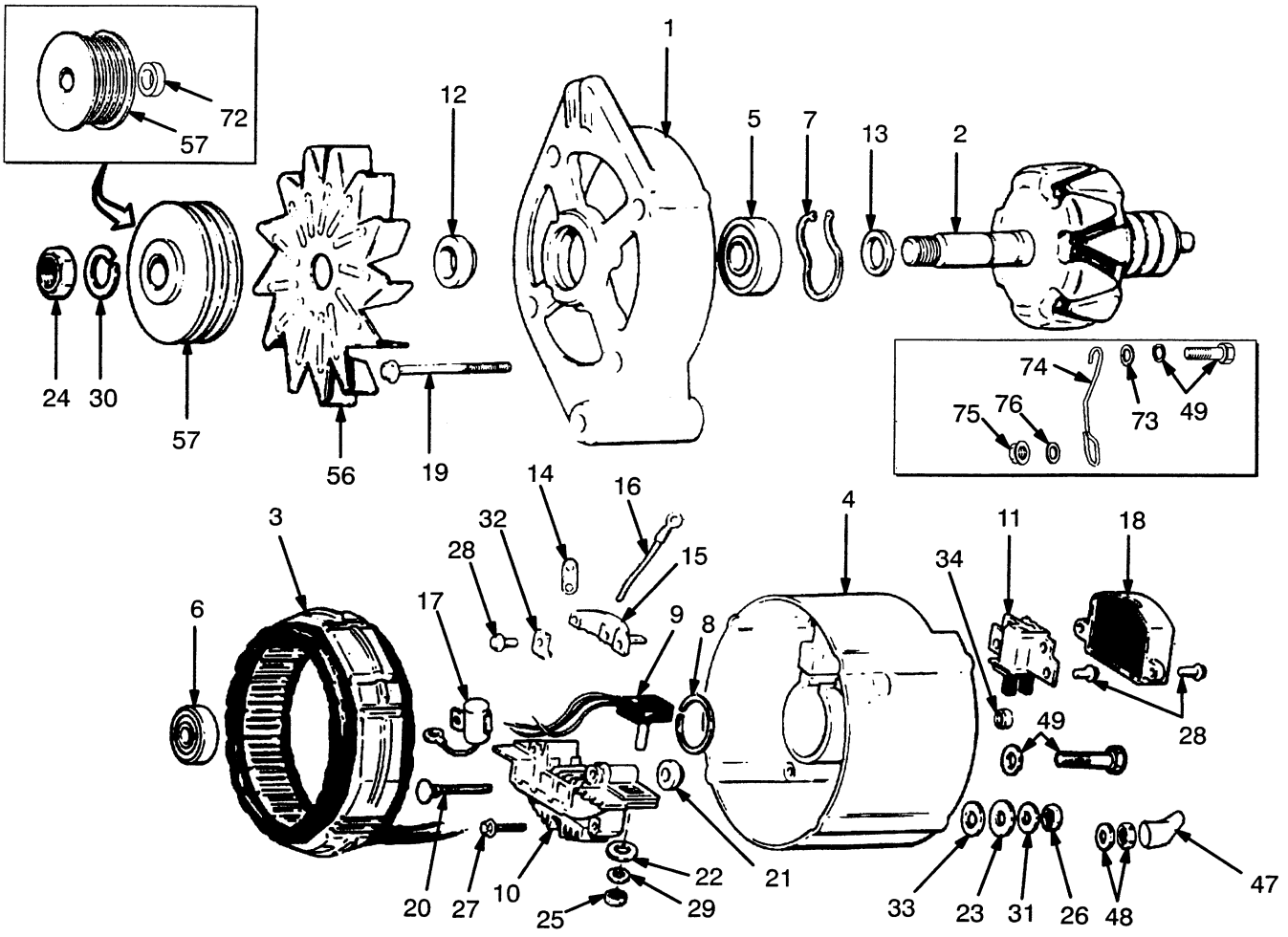
FIRST USED ON S/N G005D-10279

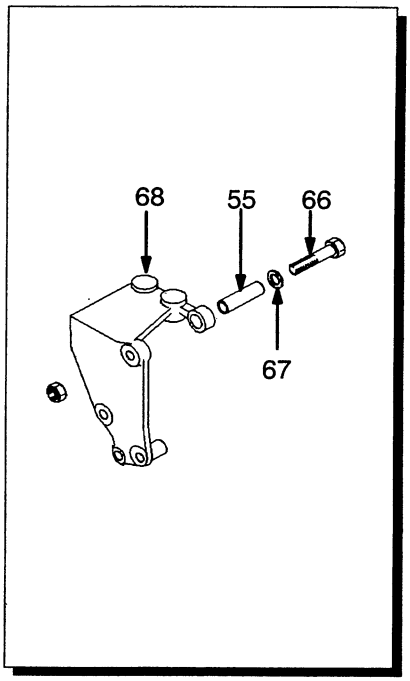
REF	PART NO.	NAME OF PART	QTY
	1358911	Alternator	1
1	290303	Regulator	1
2	1377067	Resistor	1
3	274648	Boot	1
4	1377047	Rotor	1
5	343029	Collar (DE)	1
6	1377048	Stator	1
7	310085	Frame (CE)	1
8	290508	Bearing (CE)	1
9	223095	Diode Trio	1
10	343031	Rectifier Bridge	1
11	1344274	Nut	3
12	343032	Screw And Washer	1
13	290300	Brush Holder	1
13	1377050	Brush Spring	2
14	268356	Screw (Brush)	2
15	290369	Screw (Brush Holder)	1
16	290370	Screw (Brush Holder)	1
17	310081	Kit-Terminal	1
18	344233	Terminal Relay	1
19	1377052	Capacitor	1
20	1377051	Fan	1
21	1377049	Frame	1
22	290509	Ball Bearing	1
23	1377053	Plate	1
24	344234	Screw (Retaining Plate)	3
25	310088	Collar (DE)	1
26	55580	Nut	1
27	128835	Lock Washer	1
28	128852	Bolt	4

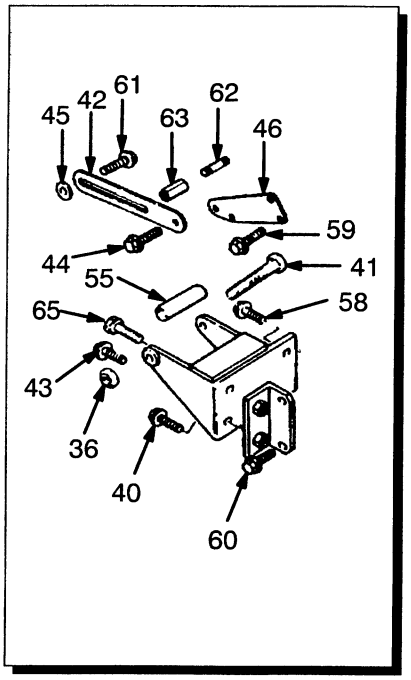
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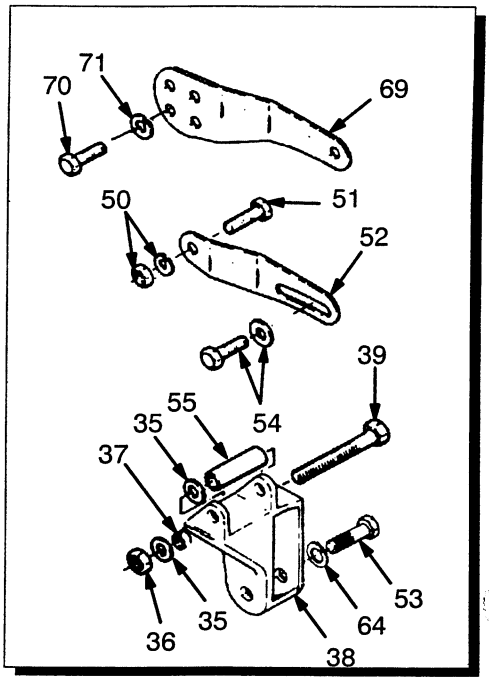
ALTERNATOR (FIGURE 105)

PRESTOLITE BRAND









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ALTERNATOR

PRESTOLITE BRAND

KEY:
A: Gasoline And LPG
B: Diesel

REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	385656	Alternator	1	1
1		....	Housing (Front)	1	1
2		386069	Rotor	1	1
3		386070	Stator	1	1
4		....	Housing	1	1
5		248128	Bearing	1	1
6		386071	Bearing	1	1
7		248129	Retainer	1	1
8		226577	Retainer (Rear)	1	1
9		386072	Diode	1	1
10		386073	Diode	1	1
11		386074	Brush	1	1
12		386400	Spacer	1	1
13		386401	Spacer	1	1
14		386402	Terminal	1	1
15		386403	Terminal	1	1
16		386404	Cable	1	1
17		386405	Capacitor	1	1
18		386406	Regulator	1	1
19		387493	Bolt	4	4
20		387494	Bolt	1	1
21		386407	Insulator	1	1
22		197067	Washer	1	1
23		387489	Washer	1	1
24		248147	Nut	1	1
25		15052	Nut	1	1
26		387492	Nut	1	1
27		387487	Screw	2	2
28		387488	Screw	10	10
29		15152	Lockwasher	1	1
30		246943	Lockwasher	1	1
31		387490	Washer	1	1
32		387491	Clamp	2	2
33		382642	Insulator	2	2
34		133481	Tubing	1	1
35		261379	Washer	2	..
36		139743	Locknut	1	..
36		1307907	Nut	..	1
37		189338	Spacer	1	..
38	b	344351	Bracket	1	..
38	c	1377765	Bracket	1	..
39		18548	Capscrew	1	..
40		1307898	Screw	..	2
41		1307906	Screw	..	1
42		1306214	Lever	..	1
43		1307914	Screw	..	2
44		1307910	Screw	..	1
45		296418	Washer	..	1
46		1306215	Plate	..	1
47		157065	Cover	1	1
48		136687	Nut	1	1
48		296359	Washer	1	1
49		136681	Capscrew And Washer	..	1
49	b	136681	Capscrew And Washer	1	..
49	c	176640	Capscrew And Washer	1	..
49		292681	Lockwasher	1	1
50	b	292682	Lockwasher	1	..
50	b	136692	Nut	1	..
51	b	136985	Capscrew	1	..
52	b	344358	Strap	1	..
53		18549	Capscrew	1	..
54		176640	Capscrew	1	..
54		320157	Washer	1	..
55		305100	Sleeve	1	..
55		1345014	Sleeve	..	1
56		126358	Fan	1	1
57	b	208483	Pulley	1	..
57	c	1377751	Pulley	1	..
57		1310277	Pulley	..	1
58		1307908	Screw	..	1
59		1307913	Screw	..	1
60		1307909	Screw	..	2
61		1306358	Screw	..	1
62		1307911	Stud	..	1
63		1315498	Nut	..	1
64		292682	Lockwasher	2	..
65		1318968	Screw	..	2
66		292523	Capscrew	..	1
67		1318306	Washer	..	1
68		1345024	Bracket	..	1
69	c	1377747	Strap	1	..
69	d	1389337	Strap	1	..
70	c	287860	Capscrew	4	..
71	c	292682	Lockwasher	4	..
72	c	1377738	Spacer	1	..
73	c	320158	Washer	1	..
74	c	1377777	Brace	1	..
75	c	192077	Locknut	1	..
76	c	15176	Washer	1	..

a Remanufactured Alternator 3020077
b Last Used On S/N G005D-4577
c Used On S/N G005D-4578 Thru G005D-8330
d First Used On S/N G005D-8331

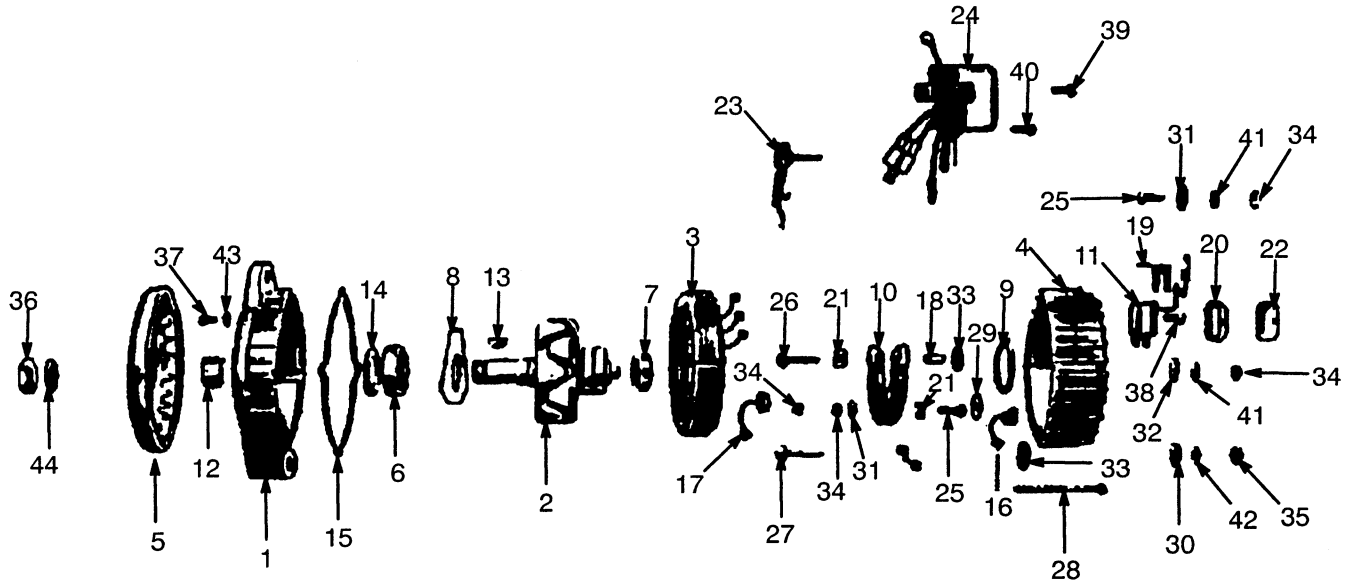
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ALTERNATOR (FIGURE 106)

PRESTOLITE BRAND

GS, LPS, DS

FIRST USED ON S/N G005D-10597



REF	PART NO.	NAME OF PART	QTY
	1394001	Alternator	1
1	1453351	Housing (Front)	1
2	1453681	Rotor Assy	1
3	1453682	Stator Assy	1
4	295802	Housing (Rear)	1
5	225673	Fan	1
6	248128	Bearing (Front/Rear)	1
7	386071	Bearing (Rear)	1
8	226576	Retainer (Front)	1
9	1371211	Retainer (Rear	1
10	226578	Heat Sink	1
11	2022534	Brush Assy	1
12	1453352	Spacer (Fan)	1
13	1453354	Woodruff Key	1
14	1453358	Seal (Front)	1
15	226582	Gasket	1
16	226583	Diode (Negative)	1
17	226584	Diode (Positive)	1
18	1371212	Insulator	1
19	2022535	Insulator	1
20	1453387	Gasket (Cover)	1
21	1371214	Insulating Square	1
22	2022538	Cover (Brush)	1
23	2022532	Diode (Field)	1

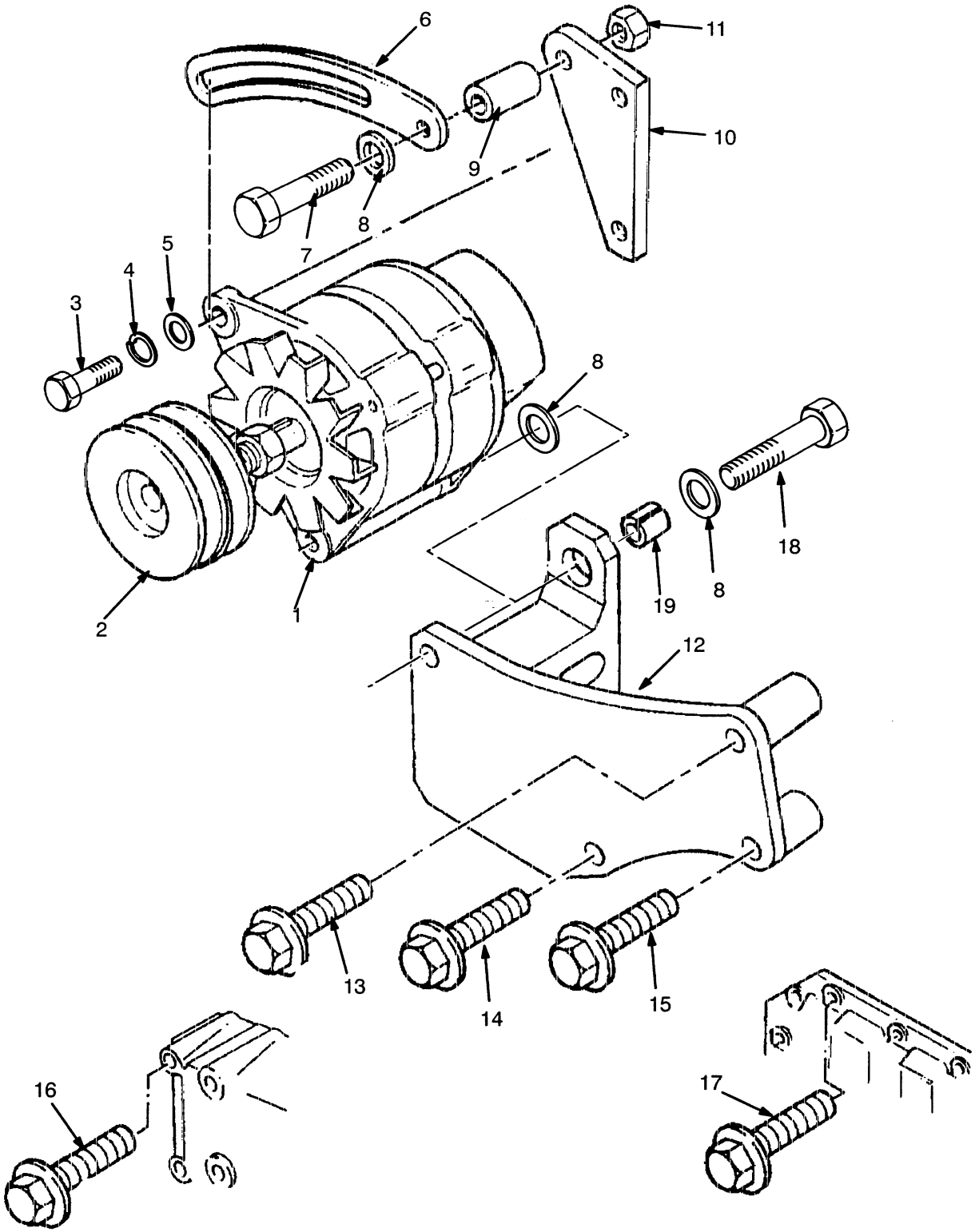
REF	PART NO.	NAME OF PART	QTY
24	1453386	Voltage Regulator	1
25	1453361	Bolt	3
26	1453362	Bolt	1
27	1453363	Bolt	1
28	1453364	Bolt	4
29	1453365	Insulator	3
30	1453366	Insulator (Round)	1
31	1453367	Insulator (Washer)	4
32	1453368	Insulator (Washer	1
33	1453369	Insulator (Washer	1
33	1453370	Insulator (Washer	1
33	1453371	Insulator (Washer)	1
34	1453680	Nut	2
34	1453373	Nut	3
35	1328516	Nut	1
36	1453375	Nut	1
37	1453376	Screw	3
38	1453377	Screw	2
39	1328521	Screw	2
40	1453379	Screw	2
41	1453381	Washer	2
42	1453382	Washer	1
43	1453383	Lockwasher	1
44	1453385	Lockwasher	1

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ALTERNATOR MOUNTING (FIGURE 107)

DIESEL 1004.42

WITH LOW EMISSIONS



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for service procedures

ALTERNATOR MOUNTING

DIESEL 1004.42

WITH LOW EMISSIONS

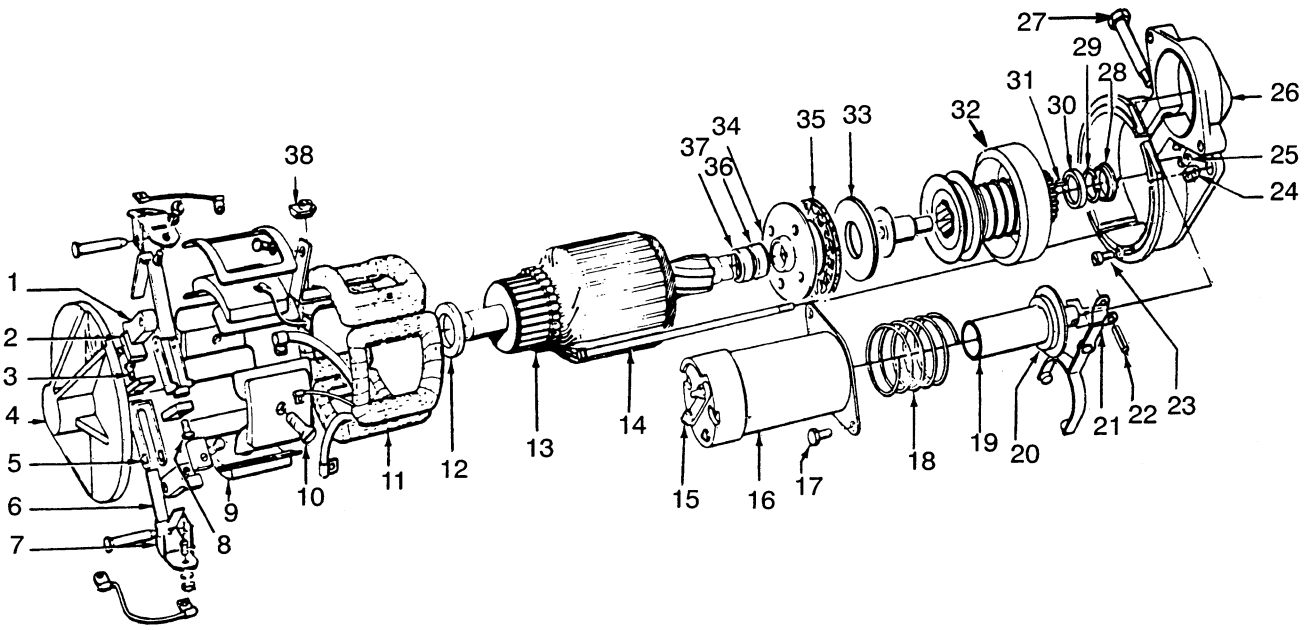
Ref	Part No.	Name Of Part	Qty
1	.....	Alternator	1
		☞ Figure 105, Figure 106	
2	1310277	Pulley	1
3	176640	Capscrew	1
4	292681	Lockwasher	1
5	320157	Washer	1
6	1451743	Lever	1
7	1382963	Screw	1
8	1318306	Washer	3
9	1451744	Spacer	1
10	1451746	Bracket	1
11	1451745	Nut	1
12	1456744	Bracket	1
13	1307914	Screw	2
14	1451758	Screw	1
15	1315497	Screw	1
16	1306357	Screw	1
17	1306362	Screw	1
18	292523	Capscrew	1
19	1345014	Sleeve	1

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STARTER (FIGURE 108)

GASOLINE AND LPG

LAST USED ON DATE BREAK 8/95



REF	PART NO.	NAME OF PART	QTY
a	353221	Starter	1
1	354478	Brush Holder	2
2	236066	Brush	4
3	227097	Screw	2
4	288917	Frame-CE	1
5	88572	Brush Holder	2
6	236069	Brush Spring	2
7	236070	Kit-Bracket	2
8	164507	Screw	2
9	289050	Pole Shoe	4
10	168665	Screw	4
11	1344707	Field Coil	1
12	373136	Washer	1
13	378432	Armature	1
14	88567	Bolt	2
15	220493	Screw	1
16	339188	Solenoid	1
17	16848	Screw	2
18	236074	Spring	1
19	1344710	Plunger	1
20	354492	Cover	1

REF	PART NO.	NAME OF PART	QTY
21	130676	Shift Lever	1
22	354485	Pin (Slotted)	1
23	378434	Screw/Washer	4
24	164514	Nut	1
25	164513	Washer	2
26	142741	Housing (DE)	1
26	142552	Bushing (.628 in OD)	1
27	236078	Stud	1
28	172813	Washer	1
29	236081	Retainer Ring	1
30	236082	Collar	1
31	378435	Pin	1
32	1309438	Drive	1
33	55978	Washer	1
34	123675	Bearing	1
35	131173	Gasket	1
36	131172	Bushing	1
37	88035	Oil Seal	1
38	277094	Grommet	1

a Remanufactured Starter 3012612

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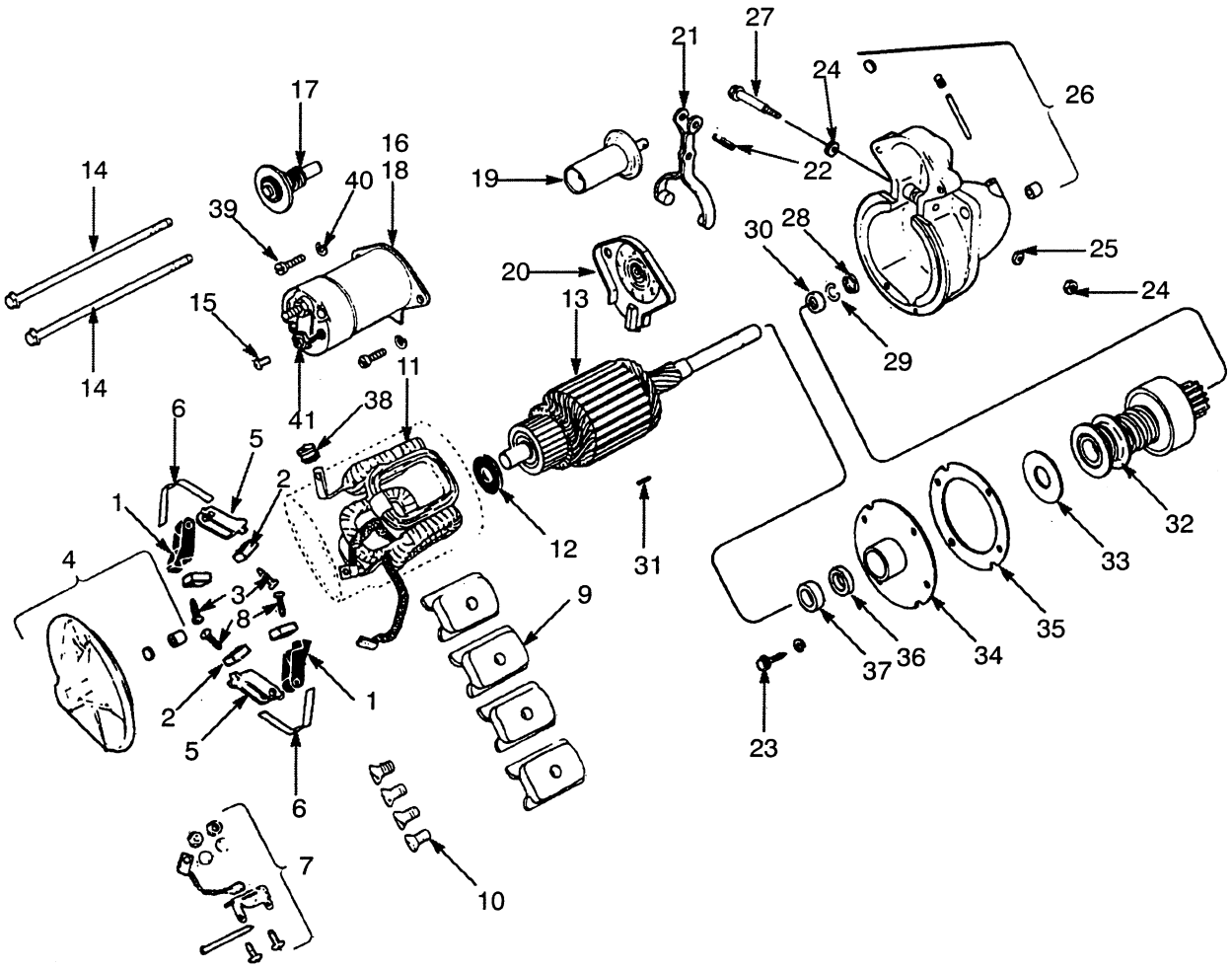
STARTER (FIGURE 109)

GASOLINE AND LPG

USED ON S/N DATE BREAK 8/95 THRU G005D-7759

(INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841)

EXCEPT S/N G005D-7710



STARTER

GASOLINE AND LPG

USED ON S/N DATE BREAK 8/95 THRU G005D-7759

(INCLUDING S/N 7830-7832, 7834-7837, 7840 AND 7841)

EXCEPT S/N G005D-7710

REF	PART NO.	NAME OF PART	QTY
	1383779	Starter	1
1	354478	Brush Holder	2
2	236066	Brush	4
3	227097	Screw	2
4	288917	Frame-CE	1
5	88572	Brush Holder	2
6	236069	Brush Spring	2
7	236070	Kit-Bracket	2
8	164507	Screw	2
9	289050	Shoe-Pole	4
10	168665	Screw	4
11	1344707	Field Coil	1
12	373136	Washer	1
13	378432	Armature	1
14	88567	Bolt	2
15	378433	Screw	1
16	339188	Solenoid	1
17	339187	Contact Assy Switch	1
18	255724	Spring	1
19	1344710	Plunger	1
20	354492	Cover	1
21	130676	Shift Lever	1
22	354485	Slotted Pin	1
23	378434	Screw/Washer	4
24	164514	Nut	1
25	164513	Washer	2
26	142741	Housing-DE	1
26	142552	Bushing	1
27	236078	Stud	1
28	172813	Washer	1
29	236081	Retainer Ring	1
30	236082	Collar	1
31	378435	Pin	1
32	1309438	Drive	1
33	55978	Washer	1
34	123675	Bearing	1
35	131173	Gasket	1
36	131172	Bushing	1
37	88035	Oil Seal	1
38	277094	Grommet	1
39	1344712	Screw	2
40	1389115	Nut	2
41	354487	Nut	1

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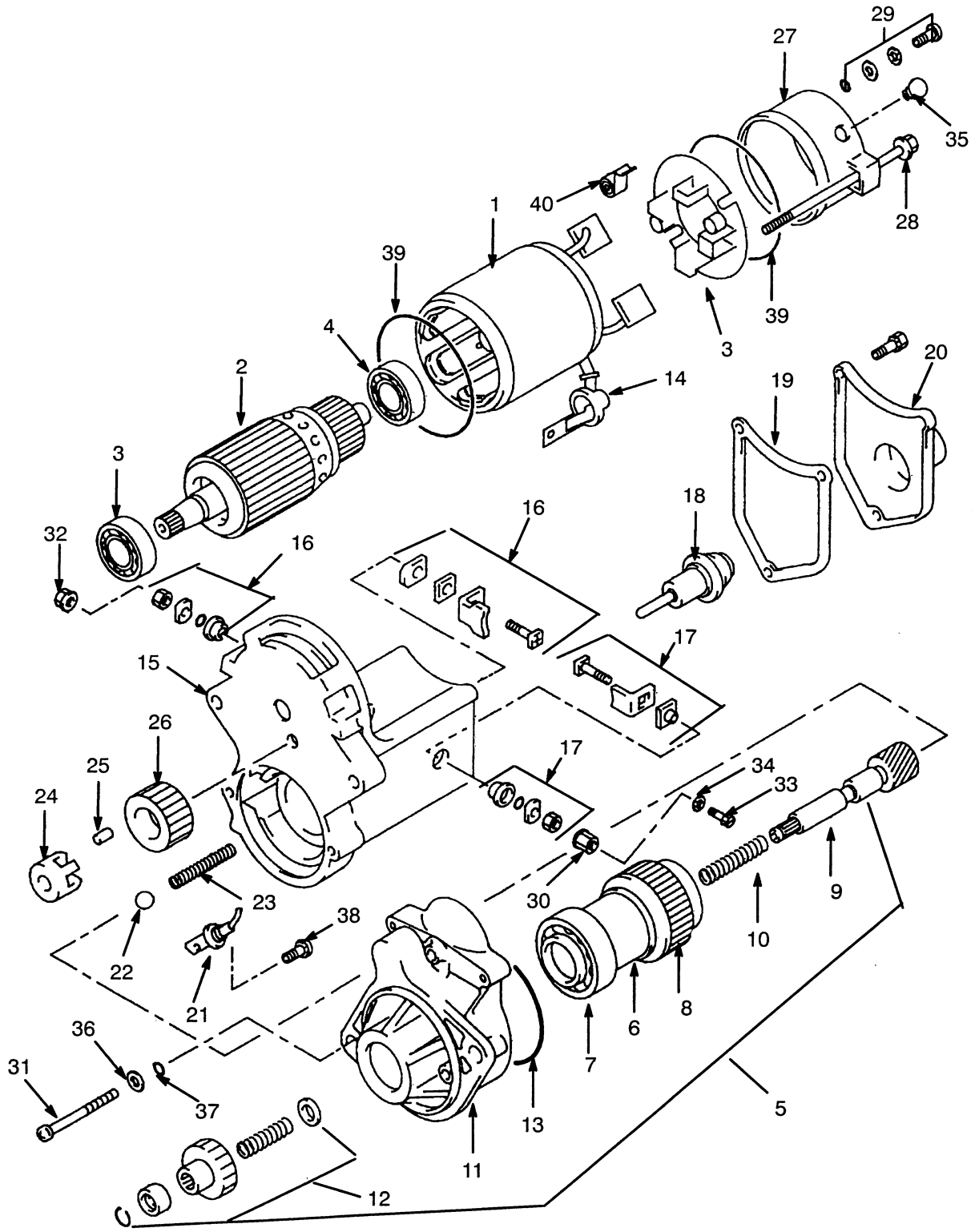
STARTER (FIGURE 110)

GASOLINE AND LPG

FIRST USED ON S/N G005D-7760

(EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841)

INCLUDING S/N G005D-7710



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STARTER

GASOLINE AND LPG

FIRST USED ON S/N G005D-7760

(EXCEPT S/N 7830-7832, 7834-7837, 7840 AND 7841)

INCLUDING S/N G005D-7710

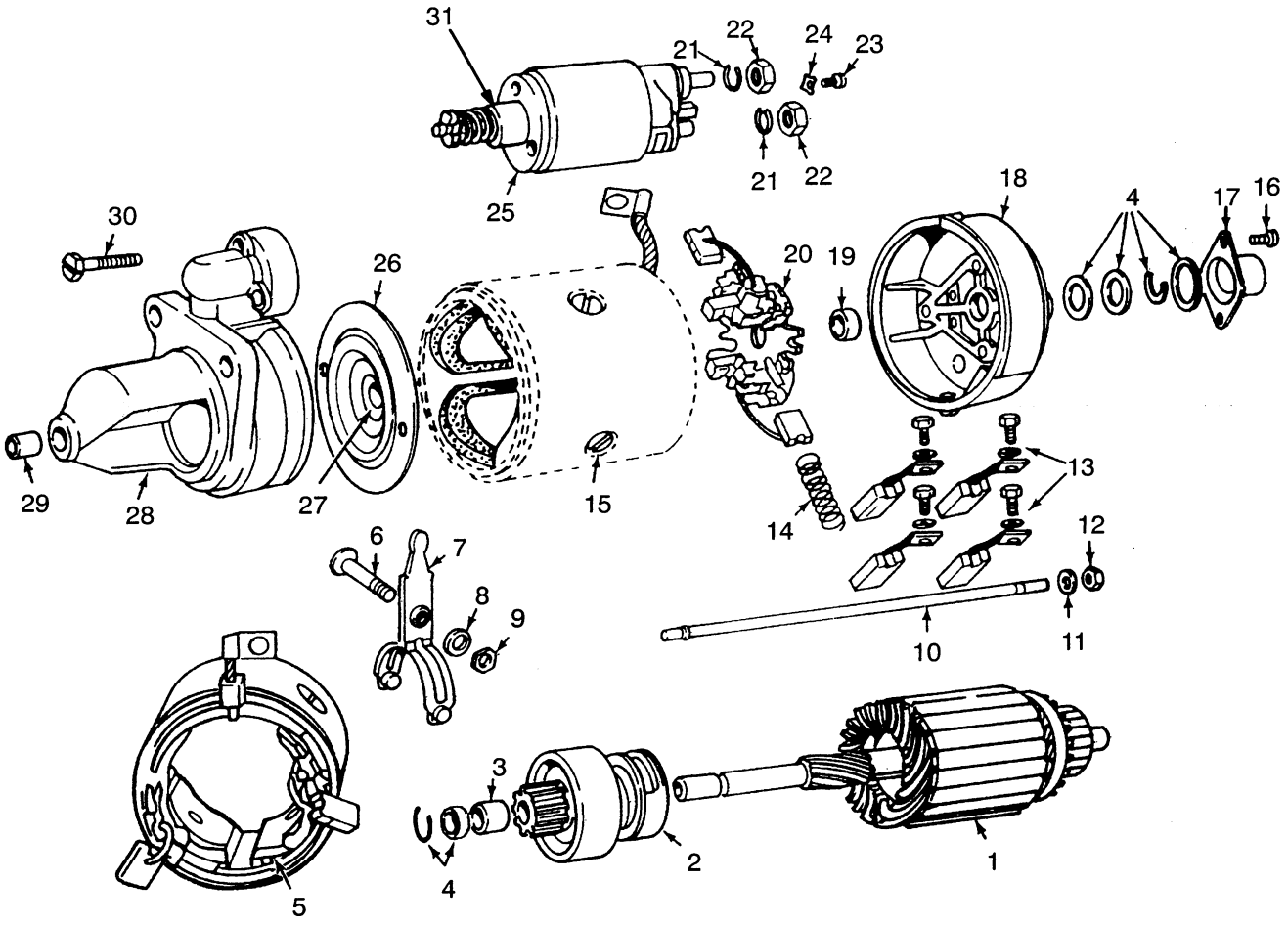
REF		PART NO.	NAME OF PART	QTY
		1383240	Starter	1
1		1390149	Yoke Assy	1
1		.....	Brushes	2
2		1390152	Armature Assy	1
3		1390168	Ball Bearing	1
3		1453889	Ball Bearing (Optional)	1
4		1390169	Ball Bearing	1
5		1453546	Clutch Assy With Housing	1
6	a	....	Clutch	1
7	a	....	Bearing	1
8	a	....	Ball Bearing	1
9	a	....	Shaft	1
10	a	....	Spring	1
11	a	....	Housing Assy	1
12	a	....	Kit-Pinion	1
13		1459303	Seal	1
14		1390173	Cover	1
15		1465586	Switch Assy	1
16		1465587	Kit-Terminal M	1
17		1453551	Kit Terminal C	1
18		1391238	Plunger Assy	1
19		1391239	Gasket	1
20		1391240	Cover	1
21		1391241	Bolt-Sub Assy, Terminal	1
22		324637	Steel Ball	1
22		1453890	Steel Ball (Optional)	1
23		1390158	Spring	1
24		1390157	Retainer	1
25		324634	Roller	5
26		1390156	Pinion	1
27		1391243	Frame	1
28		1390161	Bolt	2
29		1390162	Screw	2
30		1390165	Nut	1
31		1390160	Screw	2
32		1390172	Nut	1
33		1390166	Bolt	1
34		1391244	Washer	2
35		1390171	Cover	1
36		1390163	Washer	2
37		1390164	O-Ring	2
38		1390167	Screw And Washer	1
39		1390170	O-Ring	1
40		1390159	Spring	1

a Service With Complete 1453546 Clutch Assy With Housing

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STARTER (FIGURE 111)

DIESEL



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STARTER

DIESEL

REF	PART NO.	NAME OF PART	QTY
	326460	Starter	1
1	1356843	Armature	1
2	329299	Drive	1
3	329283	Bushing	2
4	1356848	Kit-Armature Attaching	1
5	1357350	Field Coil	1
6	1455828	Screw	1
7	1357351	Lever	1
8	329377	Washer	1
9	329378	Nut	1
10	329285	Stud	2
11	296417	Washer	2
12	136687	Nut	2
13	329295	Set-Brush	1
14	329384	Spring	4
15	335888	Screw	4
16	1356845	Screw	2
17	329291	Capsule	1
18	329289	Housing (CE)	1
19	329290	Bushing	1
20	329296	Brush Holder	1
21	335889	Lockwasher	2
22	296128	Nut	2
23	1356847	Screw	1
24	329293	Lock Plate	1
25	335892	Solenoid	1
26	329298	Bearing Support	1
27	335884	Bushing	1
27	335890	Seal	1
27	335886	Seal	1
28	329386	Housing (DE)	1
29	152542	Bushing	1
30	1356844	Screw	3
31	1356849	Cap	1

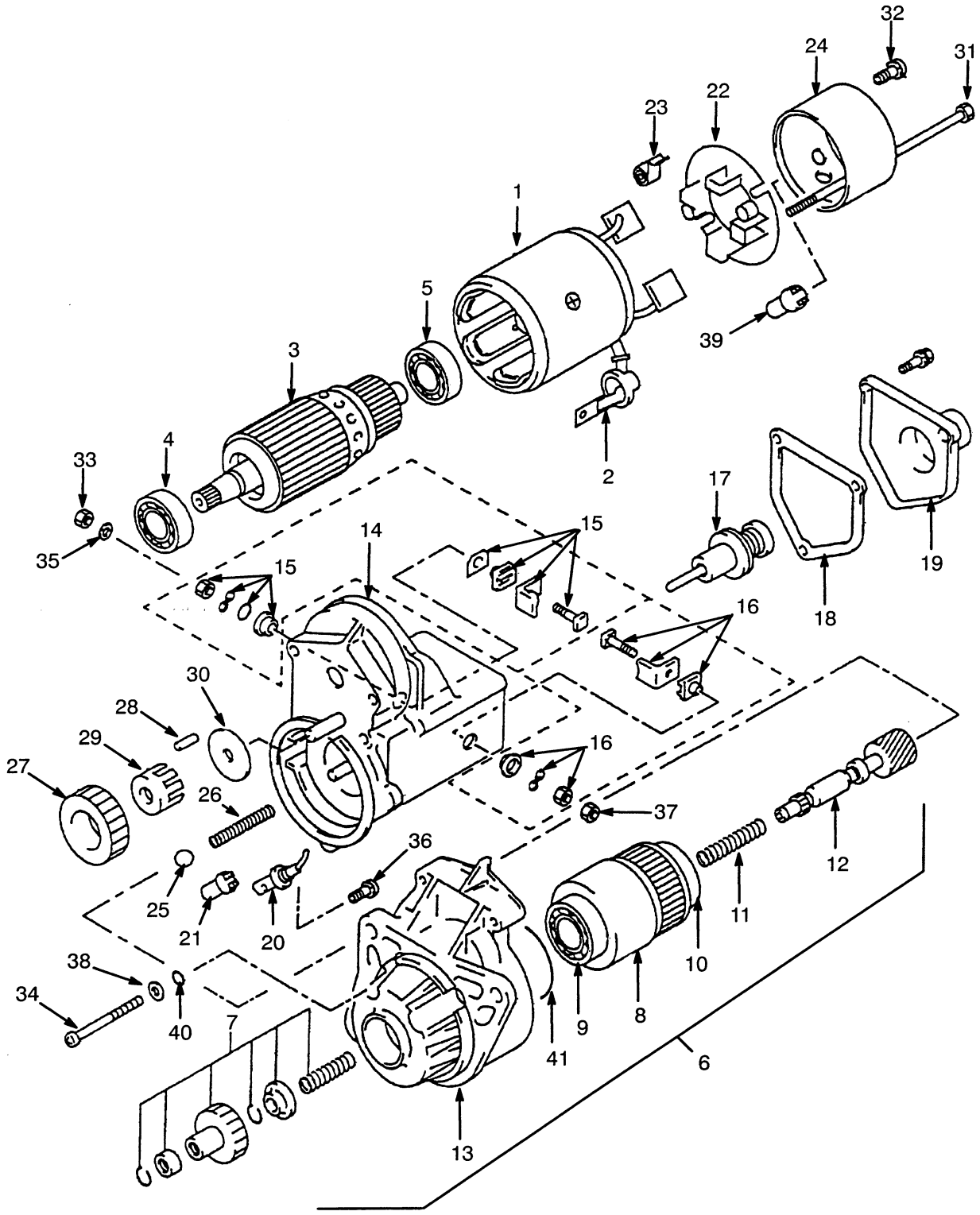
a Remanufactured Starter 3001265

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STARTER (FIGURE 112)

DIESEL

(OPTIONAL)



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STARTER
DIESEL
(OPTIONAL)

Ref	Part No.	Name Of Part	Qty
	1453060	Starter	1
1	142233	Yoke Assy	1
2	1462234	Cover	1
3	1462236	Armature Assy	1
4	1462237	Ball Bearing	1
5	1462240	Ball Bearing	1
6	1462241	Clutch Assy	1
7	....	Pinion Kit	1
8	....	Clutch Sub Assy	1
9	....	Ball Bearing (Front)	1
10	....	Ball Bearing (Rear)	1
11	....	Spring	1
12	....	Shaft	1
13	....	Housing	1
14	1463075	Switch Assy	1
15	1463076	Terminal Kit	1
16	1462251	Terminal Kit	1
17	1463077	Plunger Sub Assy	1
18	1462253	Gasket	1
19	1462254	Cover	1
20	1462255	Terminal	1
21	1462256	Bushing	1
22	1462257	Holder Assy	1
23	1462258	Spring	4
24	1463078	Cover	1
25	1462260	Ball	1
26	1462261	Spring	1
27	1462262	Pinion	1
28	1462263	Roller	5
29	1462264	Bearing Retainer	1
30	1462265	Snap Retainer	1
31	1462266	Bolt	2
32	1462267	Screw And Washer	2
33	1462270	Nut	1
34	1367106	Screw	3
35	1462271	Lockwasher	1
36	1390167	Screw And Washer	1
37	1462273	Nut	1
38	1390163	Washer	3
39	1367107	Cover	1
40	1390164	O-Ring	3
41	1462272	Seal	1

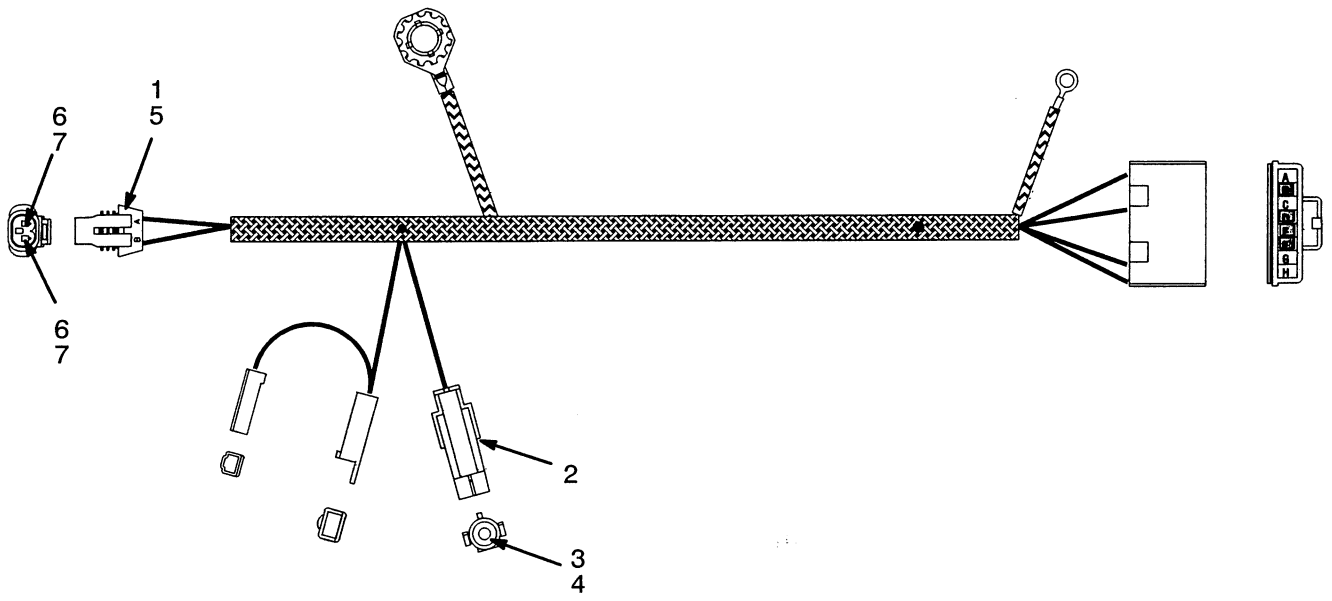
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NOTES

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WIRE HARNESS (FIGURE 113)

GOVERNOR



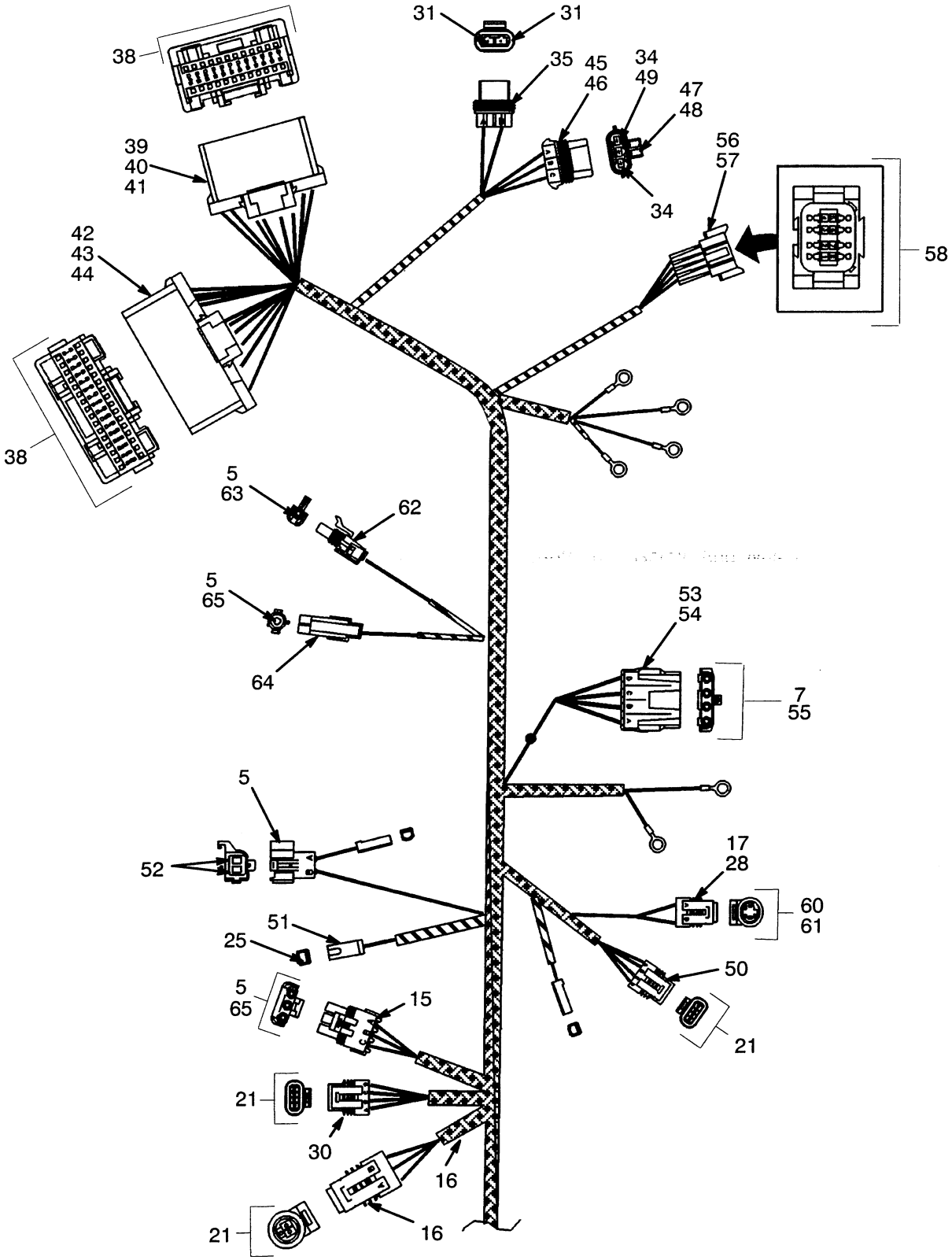
REF	PART NO.	NAME OF PART	QTY
	1345698	Harness	1
1	1345689	Connector (Solenoid Valve)	1
2	1330298	Connector (Engine)	1
3	1323579	Seal	1
4	1334999	Terminal	1
5	1345690	Lock	1
6	1330355	Terminal	2
7	1330356	Seal	2

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WIRE HARNESS (FIGURE 114)

MAIN ENGINE GAS LAST USED ON S/N G005D-51475, G005D-51483 PILOT TRUCK

(SHEET 1 OF 4)



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WIRE HARNESS

MAIN ENGINE GAS LAST USED ON S/N G005D-51475, G005D-51483 PILOT TRUCK

(SHEET 2 OF 4)

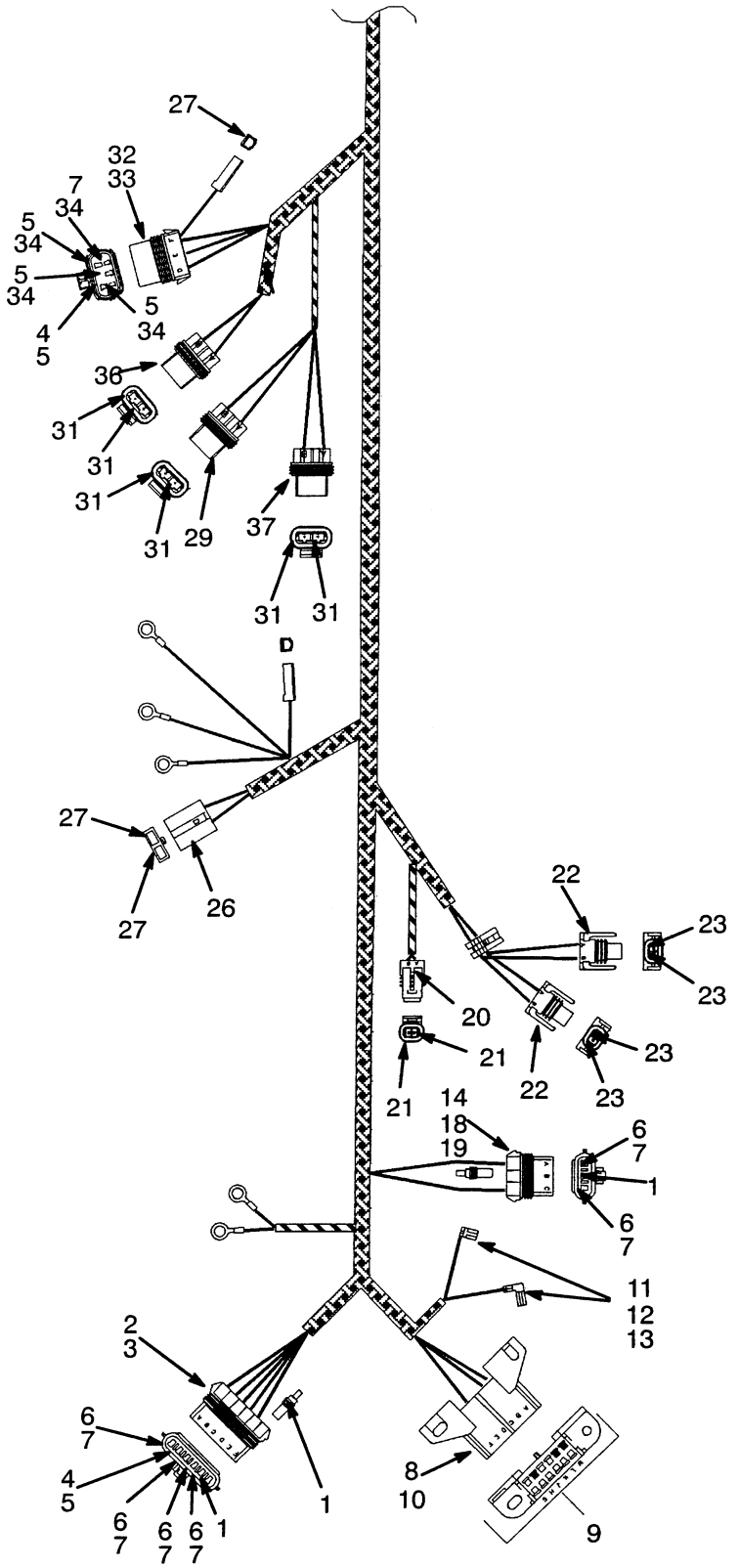
REF	PART NO.	NAME OF PART	QTY
	1369500	Harness	1
1	1327164	Plug (Cavity)	2
2	1327959	Connector (Governor Controller)	1
3	1330297	Lock	1
4	1330281	Terminal	3
5	1323579	Seal	9
6	1329148	Terminal	6
7	1329147	Seal	12
8	1327956	Connector (Diagnostic Control)	1
9	1330279	Terminal	3
10	1330294	Lock	1
11	1339447	Terminal (Engine Ground)	1
12	1339446	Connector (Engine Ground)	1
13	1339448	Terminal	1
14	1327959	Connector (Governor Motor)	1
15	1327958	Connector (MAP Sensor)	1
16	1327957	Connector (Throttle Position)	1
17	1330354	Connector (Oil Pressure)	1
18	1330284	Plug (Connector)	1
19	1330295	Lock	1
20	1323586	Connector (Coolant Temperature)	1
21	1323576	Terminal	13
22	1327960	Connector (Injector #1)	1
23	1330296	Terminal	4
24	1327960	Connector (Injector #2)	1
25	370730	Terminal	1
26	245996	Connector (Alternator Field Volts)	1
27	134812	Fitting	4
28	236900	Terminal	1
29	1330292	Connector (Fuel Pump Fuse)	1
30	1314393	Plug Assy (Idle Air)	1
31	1330283	Terminal	10
32	1330302	Connector (Fuel Pump Relay)	1
33	1330303	Lock	1
34	1330304	Terminal	5
35	1330292	Connector (Starter)	1
36	1330292	Connector (ECM Fuse)	1
37	1330292	Connector (Crank Fuse)	1
38	1330277	Terminal	28
39	1327963	Connector (ECM)	1
40	1327964	Lock	1
41	1327965	Lock	1
42	1327966	Connector (ECM)	1
43	1327967	Lock	1
44	1327968	Lock	1
45	1337389	Connector (Frame)	1
46	1337384	Lock	1
47	1337390	Terminal	1
48	1337387	Seal	1
49	1337386	Seal	2
50	1323575	Connector (Spark Timing)	2
51	1301720	Connector (Coolant Gauge)	1
52	1314393	Plug Assy (Ignition Coil And Mechanical Tachometer)	1
53	1334998	Connector (Fuel Pump And Fuel Level)	1
54	1337789	Lock	1
55	1334999	Terminal	4
56	1330413	Connector (Frame)	1
57	1330418	Lock	1
58	1330433	Terminal	8
59	1330357	Lock	1
60	1330355	Terminal	2
61	1330356	Seal	2
62	1330299	Connector (Set Timing)	1
63	1323583	Terminal	1
64	1330298	Connector (Set Timing)	1
65	1323578	Terminal	4

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WIRE HARNESS (FIGURE 109 CONTINUED)

MAIN ENGINE GAS LAST USED ON S/N G005D-51475, G005D-51483 PILOT TRUCK

(SHEET 3 OF 4)



WIRE HARNESS

MAIN ENGINE GAS LAST USED ON S/N G005D-51475, G005D-51483 PILOT TRUCK

(SHEET 4 OF 4)

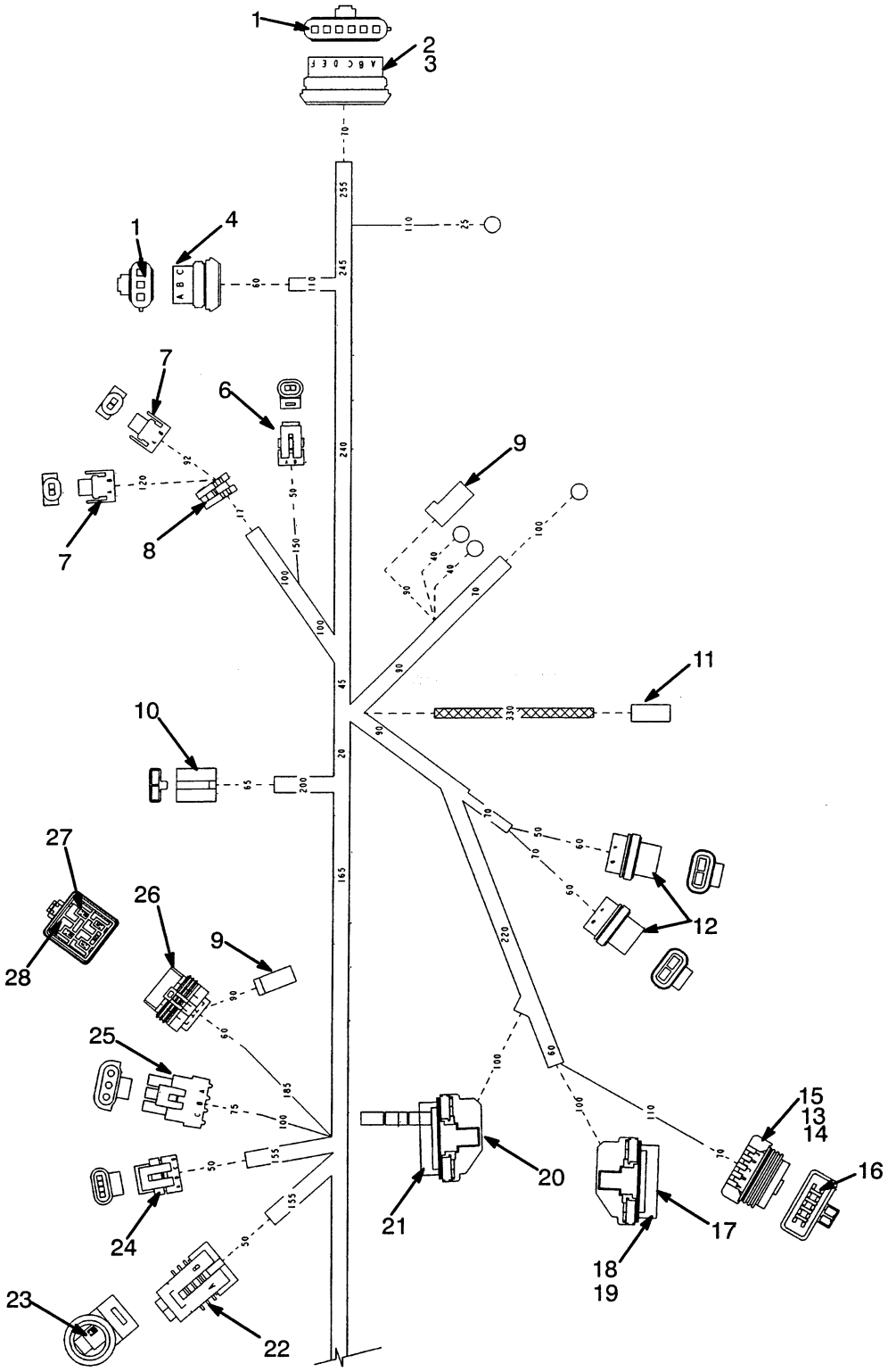
REF	PART NO.	NAME OF PART	QTY
	1369500	Harness	1
1	1327164	Plug (Cavity)	2
2	1327959	Connector (Governor Controller)	1
3	1330297	Lock	1
4	1330281	Terminal	3
5	1323579	Seal	9
6	1329148	Terminal	6
7	1329147	Seal	12
8	1327956	Connector (Diagnostic Control)	1
9	1330279	Terminal	3
10	1330294	Lock	1
11	1339447	Terminal (Engine Ground)	1
12	1339446	Connector (Engine Ground)	1
13	1339448	Terminal	1
14	1327959	Connector (Governor Motor)	1
15	1327958	Connector (MAP Sensor)	1
16	1327957	Connector (Throttle Position)	1
17	1330354	Connector (Oil Pressure)	1
18	1330284	Plug (Connector)	1
19	1330295	Lock	1
20	1323586	Connector (Coolant Temperature)	1
21	1323576	Terminal	13
22	1327960	Connector (Injector #1)	1
23	1330296	Terminal	4
24	1327960	Connector (Injector #2)	1
25	370730	Terminal	1
26	245996	Connector (Alternator Field Volts)	1
27	134812	Fitting	4
28	236900	Terminal	1
29	1330292	Connector (Fuel Pump Fuse)	1
30	1314393	Plug Assy (Idle Air)	1
31	1330283	Terminal	10
32	1330302	Connector (Fuel Pump Relay)	1
33	1330303	Lock	1
34	1330304	Terminal	5
35	1330292	Connector (Starter)	1
36	1330292	Connector (ECM Fuse)	1
37	1330292	Connector (Crank Fuse)	1
38	1330277	Terminal	28
39	1327963	Connector (ECM)	1
40	1327964	Lock	1
41	1327965	Lock	1
42	1327966	Connector (ECM)	1
43	1327967	Lock	1
44	1327968	Lock	1
45	1337389	Connector (Frame)	1
46	1337384	Lock	1
47	1337390	Terminal	1
48	1337387	Seal	1
49	1337386	Seal	2
50	1323575	Connector (Spark Timing)	2
51	1301720	Connector (Coolant Gauge)	1
52	1314393	Plug Assy (Ignition Coil And Mechanical Tachometer)	1
53	1334998	Connector (Fuel Pump And Fuel Level)	1
54	1337789	Lock	1
55	1334999	Terminal	4
56	1330413	Connector (Frame)	1
57	1330418	Lock	1
58	1330433	Terminal	8
59	1330357	Lock	1
60	1330355	Terminal	2
61	1330356	Seal	2
62	1330299	Connector (Set Timing)	1
63	1323583	Terminal	1
64	1330298	Connector (Set Timing)	1
65	1323578	Terminal	4

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ENGINE HARNESS (FIGURE 115)

GASOLINE

FIRST USED ON S/N G005D-51476, G005D-51484 PILOT TRUCK



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ENGINE HARNESS

GASOLINE

FIRST USED ON S/N G005D-51476, G005D-51484 PILOT TRUCK

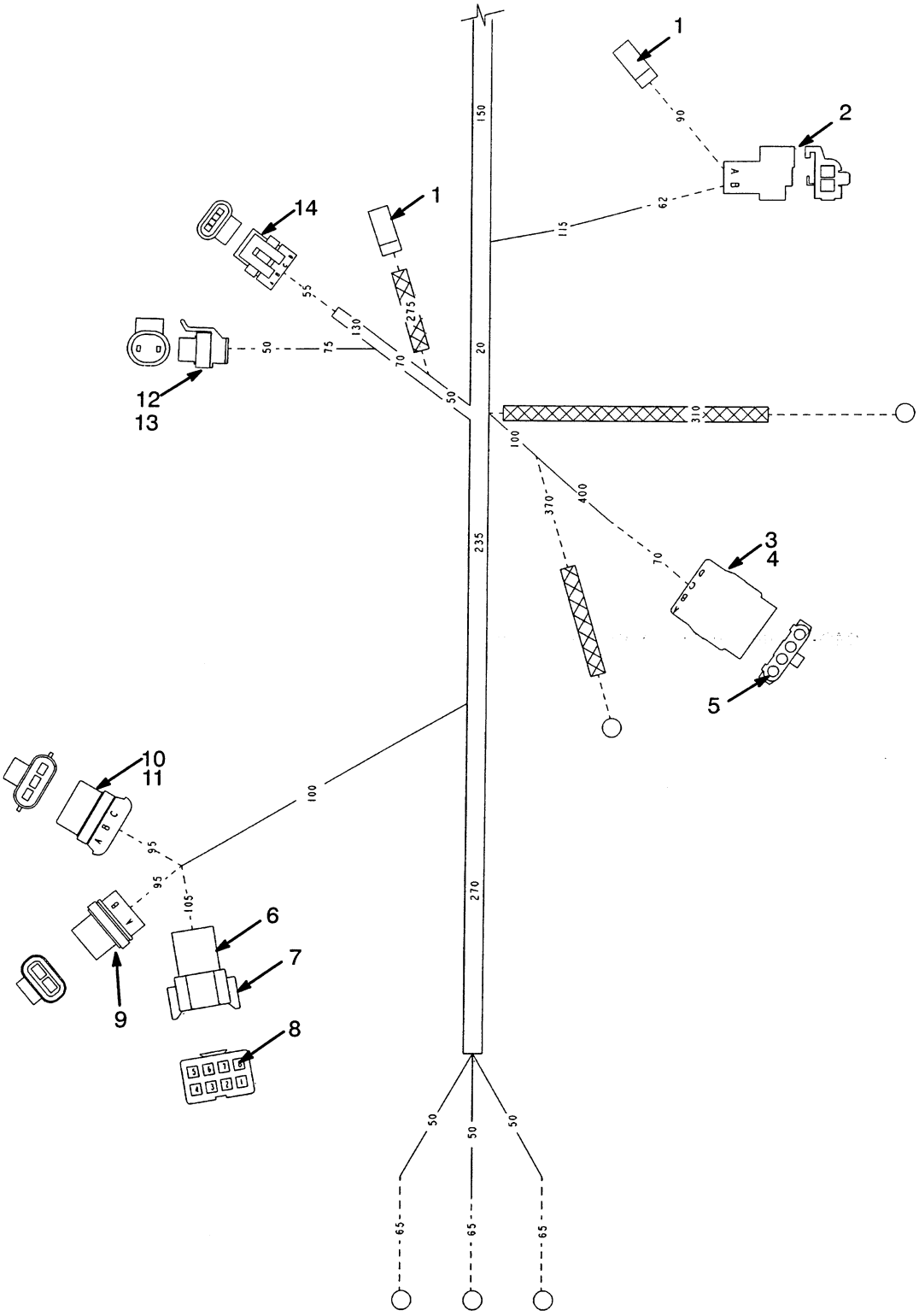
Ref	Part No.	Name Of Part	Qty
	2036694	Harness	1
1	1327164	Plug	4
2	1327959	Connector	1
3	1330297	Lock	1
4	1330284	Connector	1
5	1330295	Lock	1
6	1323586	Connector	1
7	1376619	Connector	2
8	1330291	Grommet	1
9	181046	Connector Body	2
10	245996	Connector Body	1
11	1330357	Connector	1
12	1330292	Plug	2
13	1376617	Plug	1
14	1376619	Lock	1
15	1376618	Receptical	1
16	1351139	Cavity Plug	15
17	1350223	TPA Black	1
18	1350220	Connector	2
19	1350221	Seal	2
20	1350222	TPA Clear	1
21	1350219	Relief, RH	1
22	1327957	Connector	1
23	1323576	Terminal	3
24	1323575	Connector	1
25	1327958	Connector	1
26	1461744	Connector	1
27	1323579	Seal	15
28	1375797	Terminal	3

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ENGINE HARNESS (FIGURE 110, CONTINUED)

GASOLINE

FIRST USED ON S/N G005D-51476, G005D-51484 PILOT TRUCK



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ENGINE HARNESS

GASOLINE

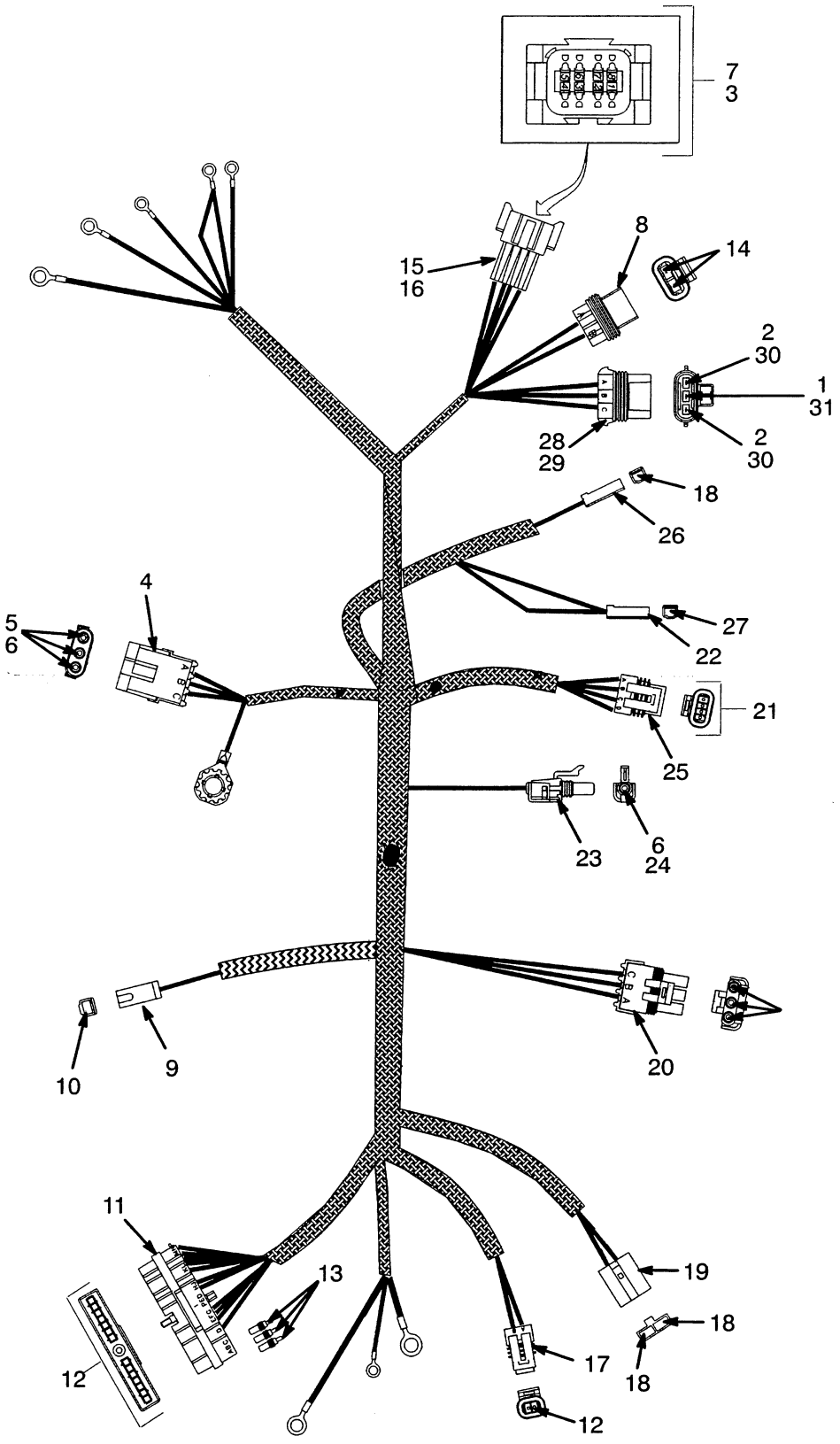
FIRST USED ON S/N G005D-51476, G005D-51484 PILOT TRUCK

Ref	Part No.	Name Of Part	Qty
	2036694	Harness	1
1	181046	Connector	2
2	1314393	Plug Assy	1
3	1334998	Receptical	1
4	1337789	Wedgelock	1
5	1323579	Seal	4
6	1330413	Receptical	1
7	1330418	Lock	1
8	1330437	Pin	8
9	1330292	Connector	1
10	1337389	Connector	1
11	1337384	Lock	1
12	1330354	Connector	1
13	1330357	Lock	1
14	1323575	Plug	1

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WIRE HARNESS (FIGURE 116)

ENGINE LPG



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WIRE HARNESS

ENGINE LPG

REF	PART NO.	NAME OF PART	QTY
	1369515	Harness	1
1	1337390	Terminal	1
2	1330304	Terminal	2
3	1330439	Plug	4
4	1323582	Connector (Initial Timing)	1
5	1323578	Terminal	6
6	1323579	Seal	7
7	1330437	Terminal (Frame)	4
7	1330433	Terminal (Optional)	4
8	1336172	Connector (Frame)	1
9	1301720	Connector (Water Temperature)	1
10	370730	Terminal	1
11	1323580	Connector (MSTS Controller)	1
12	1323576	Terminal	17
13	1323581	Plug	3
14	1330283	Terminal	2
15	1330413	Connector (Frame)	1
16	1330418	Lock	1
17	1323586	Connector (Temperature Sensor)	1
18	134812	Terminal	3
19	245996	Connector (Alternator)	1
20	1327958	Connector (MAP Sensor)	1
21	1323576	Terminal (Distributor)	1
22	181046	Connector (Governor Harness)	1
23	1330299	Connector (Governor Harness)	1
24	1336173	Terminal	1
25	1323575	Connector (Distributor)	1
26	181046	Connector (Oil Pressure)	2
27	134811	Terminal	1
28	1337389	Connector (Frame)	1
29	1337384	Lock	1
30	1337386	Seal	1
31	1337388	Seal	1

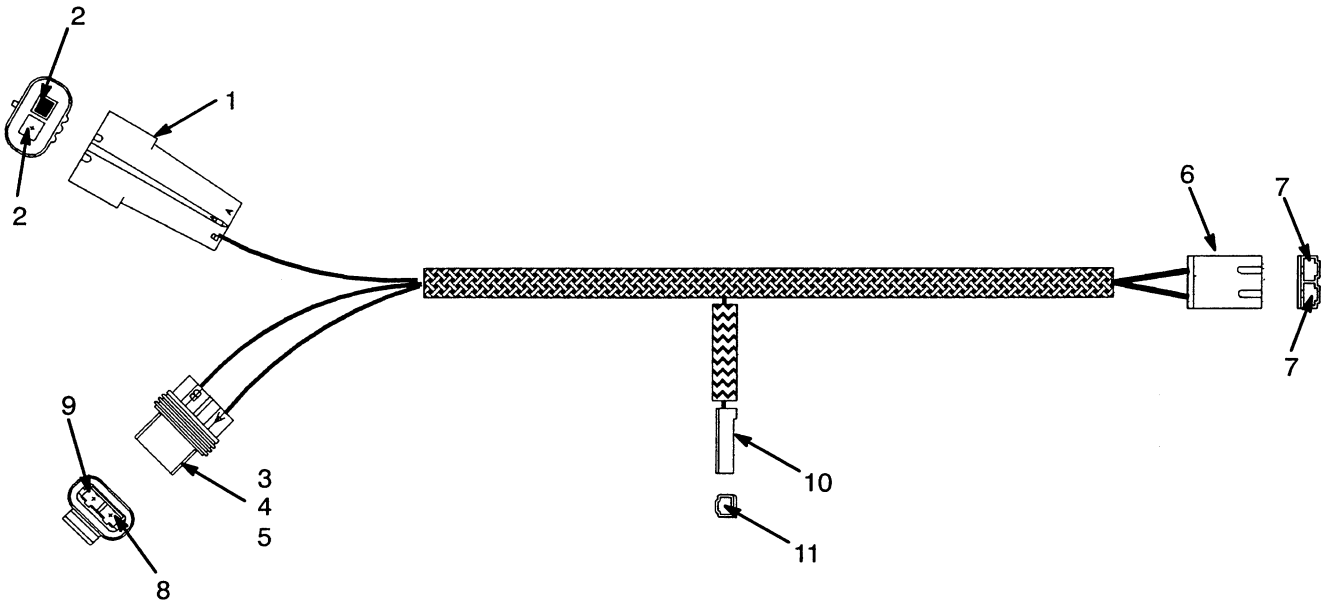
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WIRE HARNESS (FIGURE 117)

OIL CLUTCH

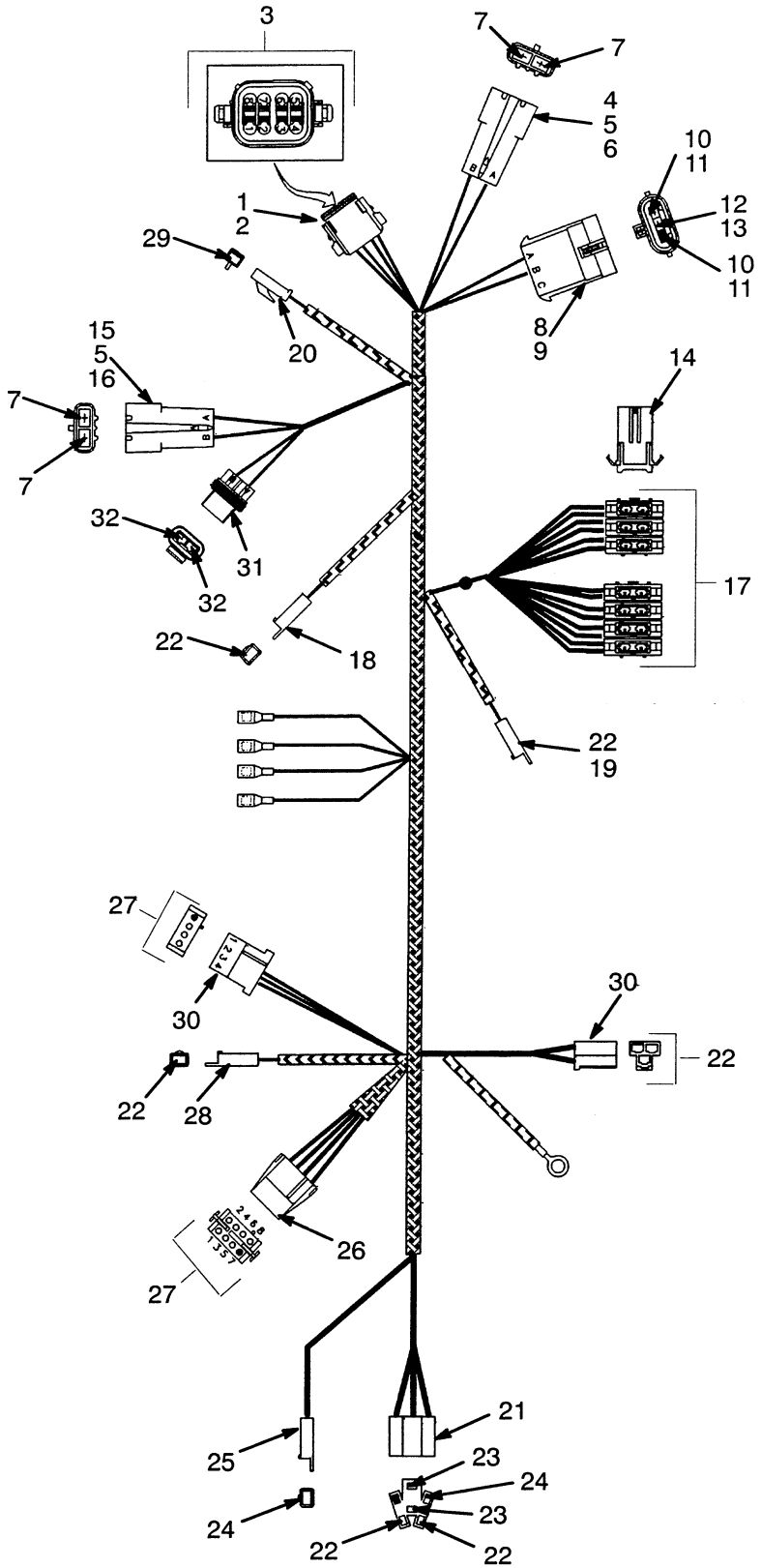


REF	PART NO.	NAME OF PART	QTY
	1339466	Harness	..
1	1330292	Connector (Panel)	1
2	1330283	Terminal	2
3	1336870	Connector (Panel)	1
4	1336874	Seal	1
5	1336871	Lock	1
6	346330	Connector (Neutral Start)	1
7	370730	Fitting	2
8	1337392	Terminal	1
9	1337391	Plug	2
10	181046	Connector (Oil Clutch Lube Pressure)	1
11	134812	Fitting	1

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WIRE HARNESS (FIGURE 118)

MAIN INSTRUMENT



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WIRE HARNESS

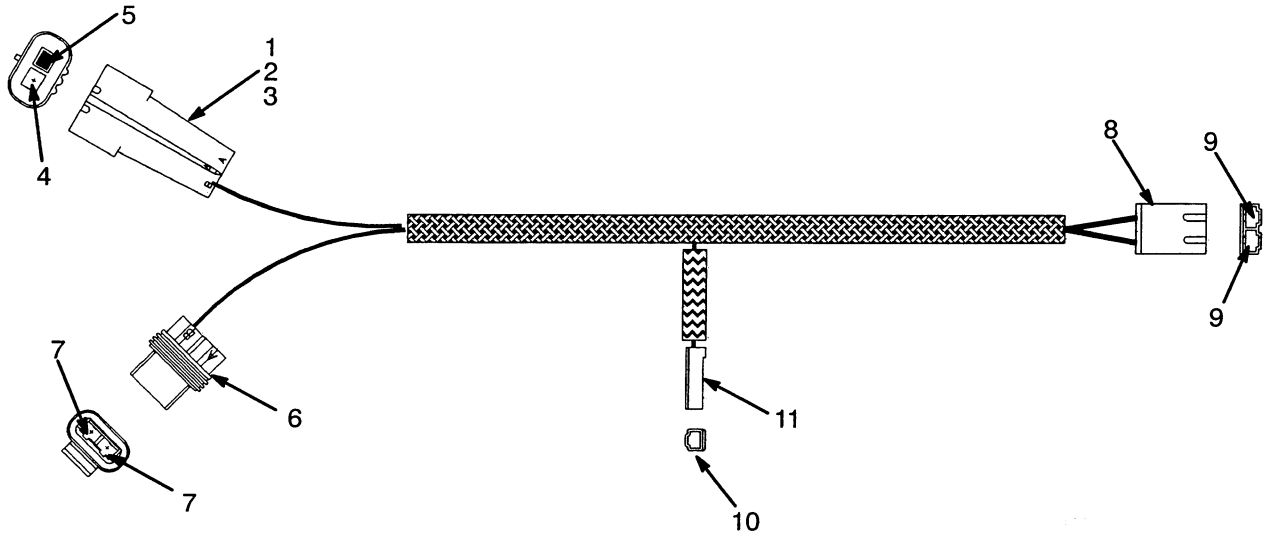
MAIN INSTRUMENT

REF	PART NO.	NAME OF PART	QTY
	1343963	Harness (LPG/Gasoline)	1
	1343964	Harness (Diesel)	1
1	1330423	Connector (Engine Harness)	1
2	1330429	Lock	1
3	1330438	Terminal	8
3	1330434	Terminal (Optional)	8
4	1336870	Connector (Engine Harness)	2
5	1336874	Seal	2
6	1336871	Lock	2
7	1337392	Terminal	4
8	1337383	Connector (Engine Harness)	1
9	1337384	Lock	1
10	1336872	Terminal	2
11	1337386	Seal	2
12	1337385	Terminal	1
13	1337388	Seal	1
14	381846	Socket	1
15	1336870	Connector (Neutral Start)	1
16	1336871	Lock	1
17	381847	Terminal (Instrument Panel And Fuses)	12
18	277446	Connector (Horn)	1
19	181046	Connector (Cab)	1
20	181045	Connector (Monotrol Pedal)	1
20	313381	Fitting (Optional)	1
21	370728	Connector (Ignition Switch)	1
22	134812	Fitting	8
23	141462	Fitting	2
24	134811	Fitting	2
25	181046	Connector (Ignition Switch)	2
26	370727	Connector (RH Cluster)	1
27	367968	Fitting	10
28	129889	Connector (Horn Button)	1
29	134810	Terminal	1
30	126319	Connector (Horn Relay)	1
31	1330292	Connector (Neutral Start)	1
32	1330283	Fitting	2

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WIRE HARNESS (FIGURE 119)

NEUTRAL START WITH FORWARD/REVERSE LEVER

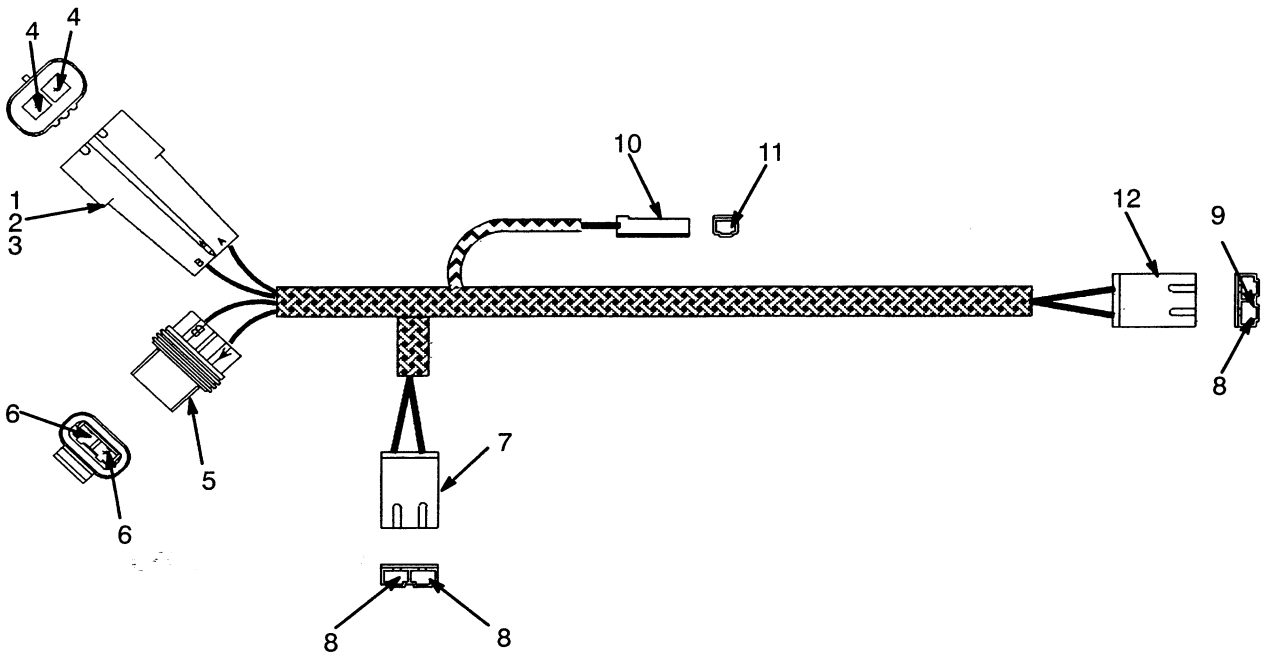


REF	PART NO.	NAME OF PART	QTY
	1335849	Harness	1
1	1336870	Receptacle (Panel Harness)	1
2	1336874	Seal	1
3	1336871	Lock	1
4	1337392	Fitting	1
5	1337391	Plug	1
6	1330292	Connector (Panel Harness)	1
7	1330283	Terminal	2
8	346330	Connector (Neutral Start)	1
9	370730	Fitting	2
10	134812	Terminal	1
11	181046	Connector (Transmission Temperature Switch)	1

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WIRE HARNESS (FIGURE 120)

NEUTRAL START WITH MONOTROL PEDAL



REF	PART NO.	NAME OF PART	QTY
	1335848	Harness	1
1	1336870	Connector (Panel Harness)	1
2	1336874	Seal	1
3	1336871	Lock	1
4	1337392	Terminal	2
5	1330292	Connector (Panel Harness)	1
6	1330283	Terminal	2
7	346330	Connector (Service Brake)	1
8	370730	Terminal	3
9	1322673	Terminal	1
10	181046	Connector (Transmission Temperature Switch)	1
11	134812	Terminal	1
12	346330	Connector (Neutral Start)	1

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TRANSMISSION

CLUTCH CONTROL LINKAGE (Figure 125)
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CLUTCH (Figure 124)
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CLUTCH PACK (Figure 130)
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TRANSMISSION (CONTINUED)

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TRANSMISSION PIPING (Figure 134)
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UNIVERSAL JOINT (Figure 136) ..... Page 279

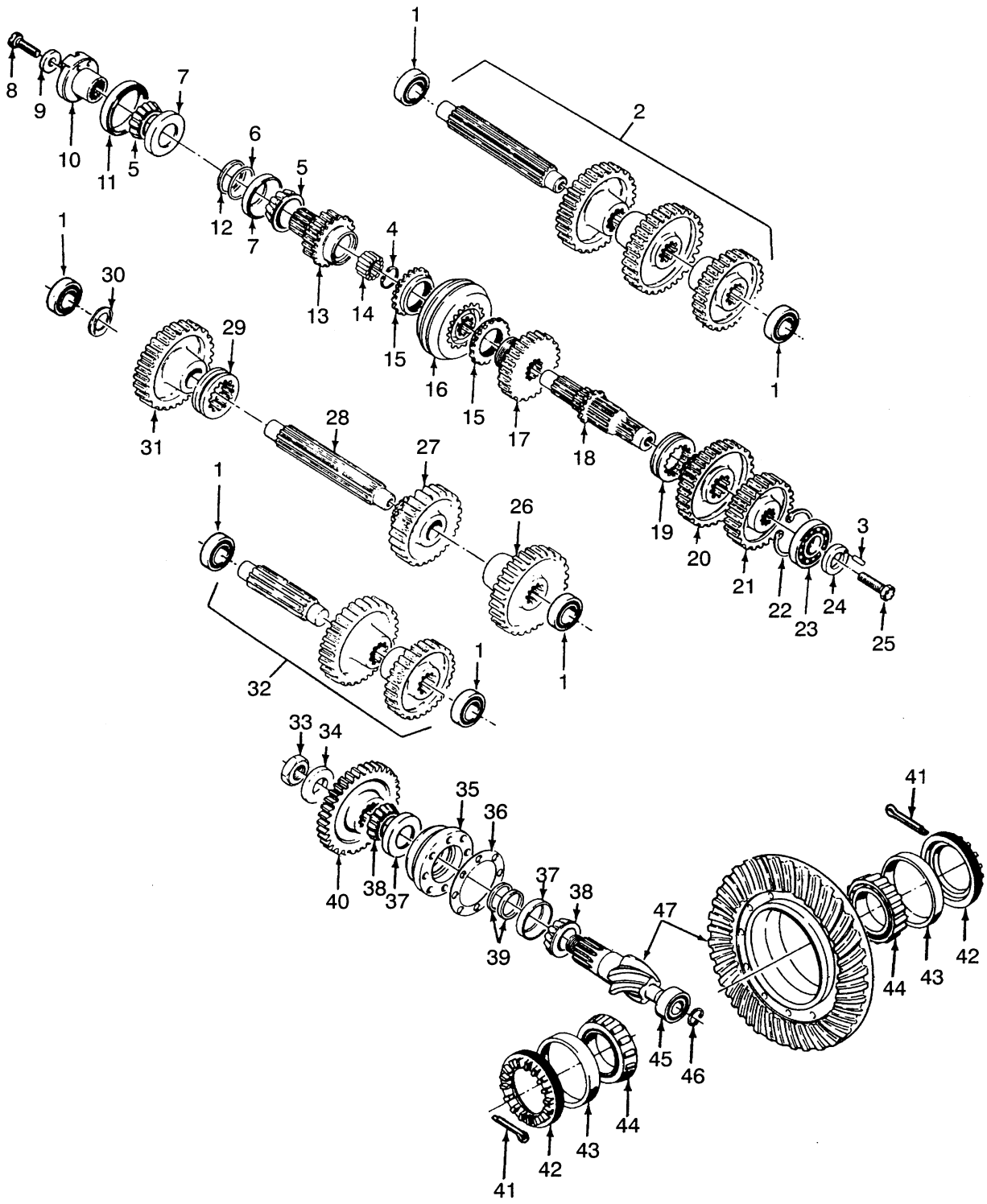
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TRANSMISSION GEARS (FIGURE 121)

OIL CLUTCH



TRANSMISSION GEARS

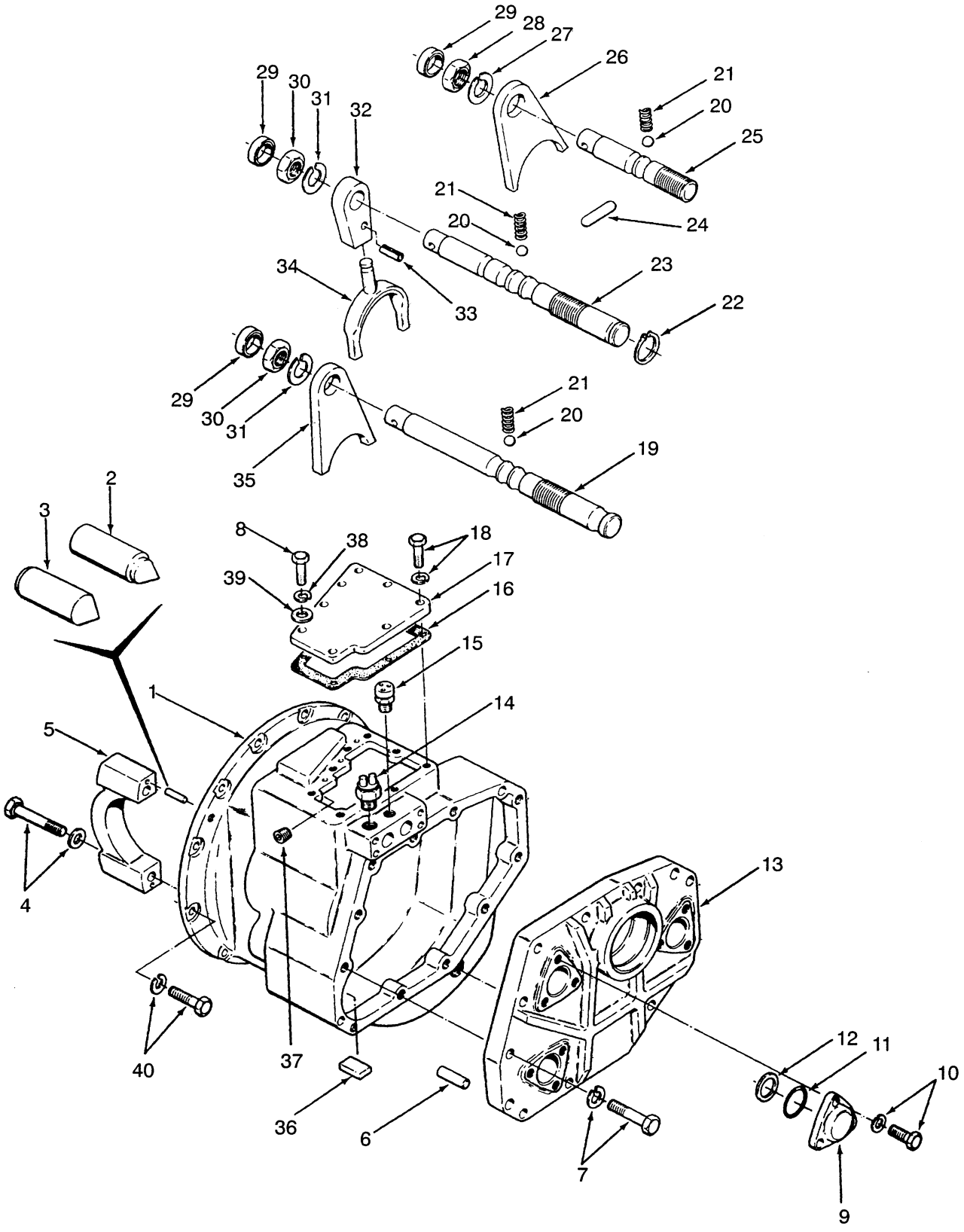
OIL CLUTCH

REF	PART NO.	NAME OF PART	QTY
	1322631	Transmission	1
1	352407	Bearing	6
2	352361	Countershaft	1
3	18882	Groove Pin	1
4	53688	Snap Ring	1
5	289651	Bearing Cone	2
6	289655	Shim (0.005 in)	AR
6	289654	Shim (0.007 in)	AR
6	289653	Shim (0.002 in)	AR
7	289649	Bearing Cup	2
8	289867	Bolt	1
9	289661	Retainer	1
10	352384	Yoke	1
11	139499	Oil Seal	1
12	289652	Spacer	1
13	289662	Input Gear	1
14	53753	Bearing	16
15	307412	Ring	2
16	307411	Synchronizer	1
17	307409	Gear/Bushing	1
17	307406	Bushing	1
18	352402	Input Shaft	1
19	289666	Clutch	1
20	289667	Gear	1
20	143181	Bushing (Split)	1
21	289671	Gear (Output)	1
22	67551	Snap Ring	1
22	352497	Snap Ring	1
23	41308	Bearing	1
24	289673	Washer (Retainer)	1
25	289867	Bolt	1
26	289695	Gear	1
27	289692	Gear	1
27	143181	Bushing (Split)	1
28	352370	Shaft	1
29	289689	Clutch	1
30	289685	Washer	1
31	289686	Gear	1
32	352342	Gear	1
33	238751	Nut	1
34	66284	Washer	1
35	352326	Bearing Carrier	1
36	352335	Shim (0.127 mm)	AR
36	352334	Shim (0.178 mm)	AR
36	352333	Shim (0.508 mm)	AR
37	200972	Bearing Cup	2
38	30174	Bearing Cone	2
39	202568	Spacer (0.238 mm)	AR
39	202569	Spacer (0.239 mm)	AR
39	202570	Spacer (0.240 mm)	AR
39	202571	Spacer (0.241 mm)	AR
39	202572	Spacer (0.242 mm)	AR
39	202573	Spacer (0.243 mm)	AR
39	202575	Spacer (0.255 mm)	AR
39	202576	Spacer (0.261 mm)	AR
39	202577	Spacer (0.267 mm)	AR
39	202578	Spacer (0.273 mm)	AR
39	271866	Spacer (0.279 mm)	AR
39	271867	Spacer (0.285 mm)	AR
39	271868	Spacer (0.291 mm)	AR
39	271869	Spacer (0.297 mm)	AR
39	271870	Spacer (0.303 mm)	AR
40	289704	Gear	1
41	86008	Cotter Pin	2
42	234034	Nut	2
43	230413	Bearing Cup	2
44	30161	Bearing Cone	2
45	296844	Bearing	1
46	240683	Snap Ring	1
47	....	Ring Gear And Pinion	1
		☞ Figure 138	

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TRANSMISSION HOUSING (FIGURE 122)

OIL CLUTCH



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TRANSMISSION HOUSING

OIL CLUTCH

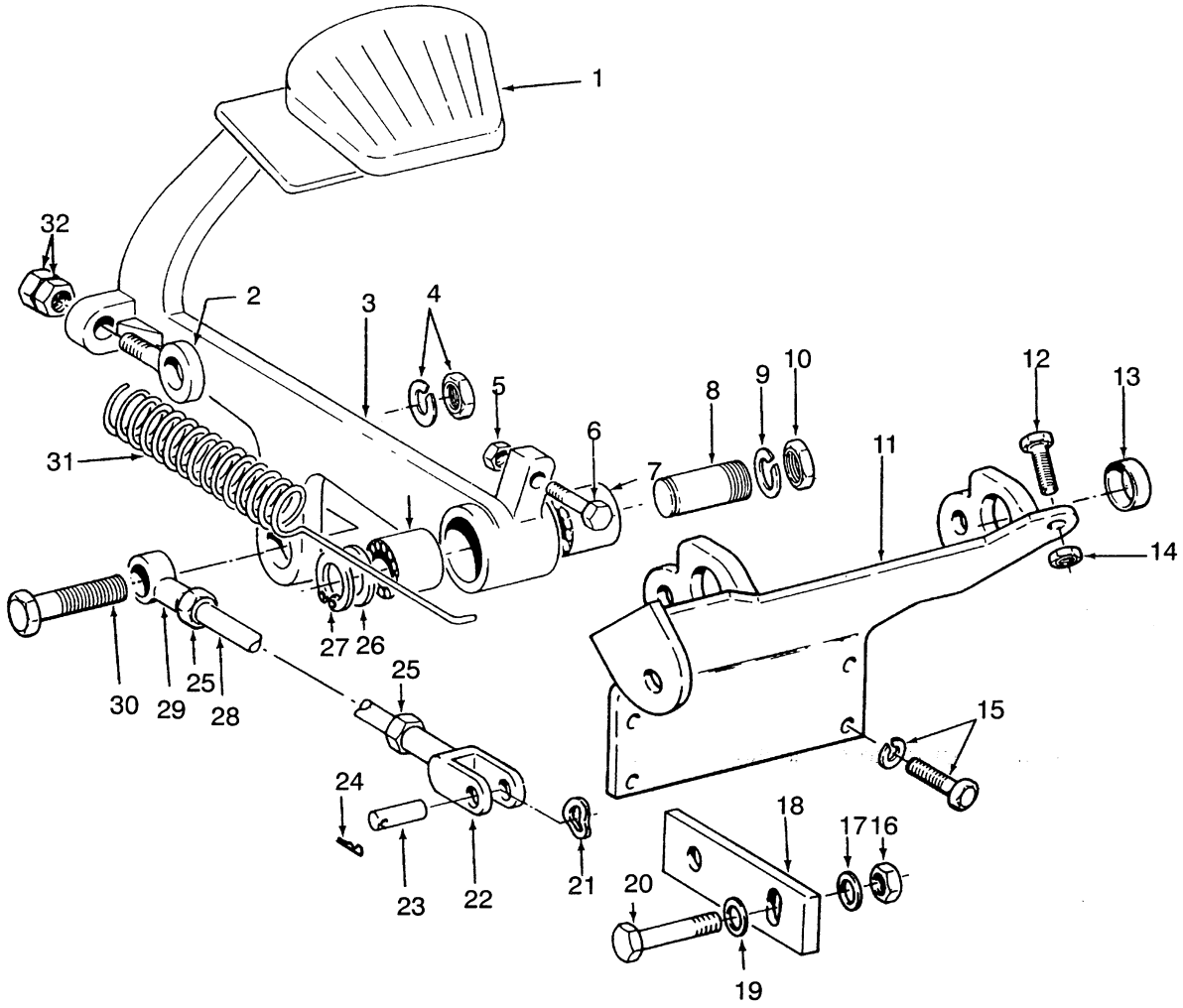
REF	PART NO.	NAME OF PART	QTY
	1322631	Transmission	1
1	352373	Housing	1
2	234038	Dowel Pin	4
3	334413	Dowel Pin	4
4	293696	Capscrew	4
4	296426	Flatwasher	4
5	....	Bearing Cap	2
6	352406	Pin	2
7	292682	Lockwasher	11
7	302338	Screw	11
8	136985	Capscrew	1
9	289642	Bearing Cover	3
10	302338	Screw	9
10	320159	Washer	9
11	39675	O-Ring	3
12	289762	Shim (.005 in)	AR
12	289761	Shim (.007 in)	AR
12	289760	Shim (.020 in)	AR
13	352375	Cover	1
13	264159	Adhesive	AR
14	1388574	Switch (Temperature)	1
15	21420	Plug (Breather)	1
16	352387	Gasket	1
17	353430	Cover	1
18	287854	Capscrew	7
18	292682	Lockwasher	7

REF	PART NO.	NAME OF PART	QTY
19	352390	Rail (Forward/Reverse)	1
20	21278	Ball	3
21	289823	Spring	3
22	131358	Snap Ring	1
23	352389	Range Rail	1
24	313130	Pin	1
25	352391	Rail (Low)	1
26	289717	Fork (Low)	1
27	15934	Lockwasher	1
28	15034	Nut	1
29	145752	Seal	3
30	15036	Nut	2
30	226414	Adhesive	AR
31	15936	Lockwasher	2
32	289713	Fork Holder	1
33	71153	Spring Pin	1
34	289711	Fork	1
35	289715	Fork (Forward/Reverse)	1
36	334560	Magnet	1
36	226414	Adhesive	AR
37	349378	Plug	1
38	292682	Lockwasher	1
39	320159	Washer	1
40	292683	Lockwasher	12
40	293646	Capscrew	12
40	313022	Sealant	AR

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CLUTCH PEDAL (FIGURE 123)

OIL CLUTCH



REF	PART NO.	NAME OF PART	QTY
1	132690	Pad	1
2	289580	Eyebolt	1
3	352823	Pedal	1
4	15158	Lockwasher	1
4	15058	Nut	1
5	216877	Nut	1
6	292529	Capscrew	1
7	245105	Bearing	2
8	352788	Stub Shaft	1
9	292687	Lockwasher	1
10	292620	Nut	1
11	352805	Bracket	1
11	288394	Sealant	AR
12	292529	Capscrew	1
13	270632	Bushing	2
14	296130	Nut	1
15	287860	Capscrew	4
15	292682	Lockwasher	4

REF	PART NO.	NAME OF PART	QTY
16	316826	Nut	1
17	352992	Spacer	1
18	304462	Plate	1
19	296421	Washer	1
20	287860	Capscrew	1
21	253274	Spring Washer	2
22	152	Rod End	1
23	153	Pin	1
24	15223	Cotter Pin	1
25	15028	Nut	2
26	38979	Washer	1
27	131358	Snap Ring	1
28	48324	Link	1
29	352831	Rod End	1
30	18590	Capscrew	1
31	289579	Spring	1
32	15086	Nut	2

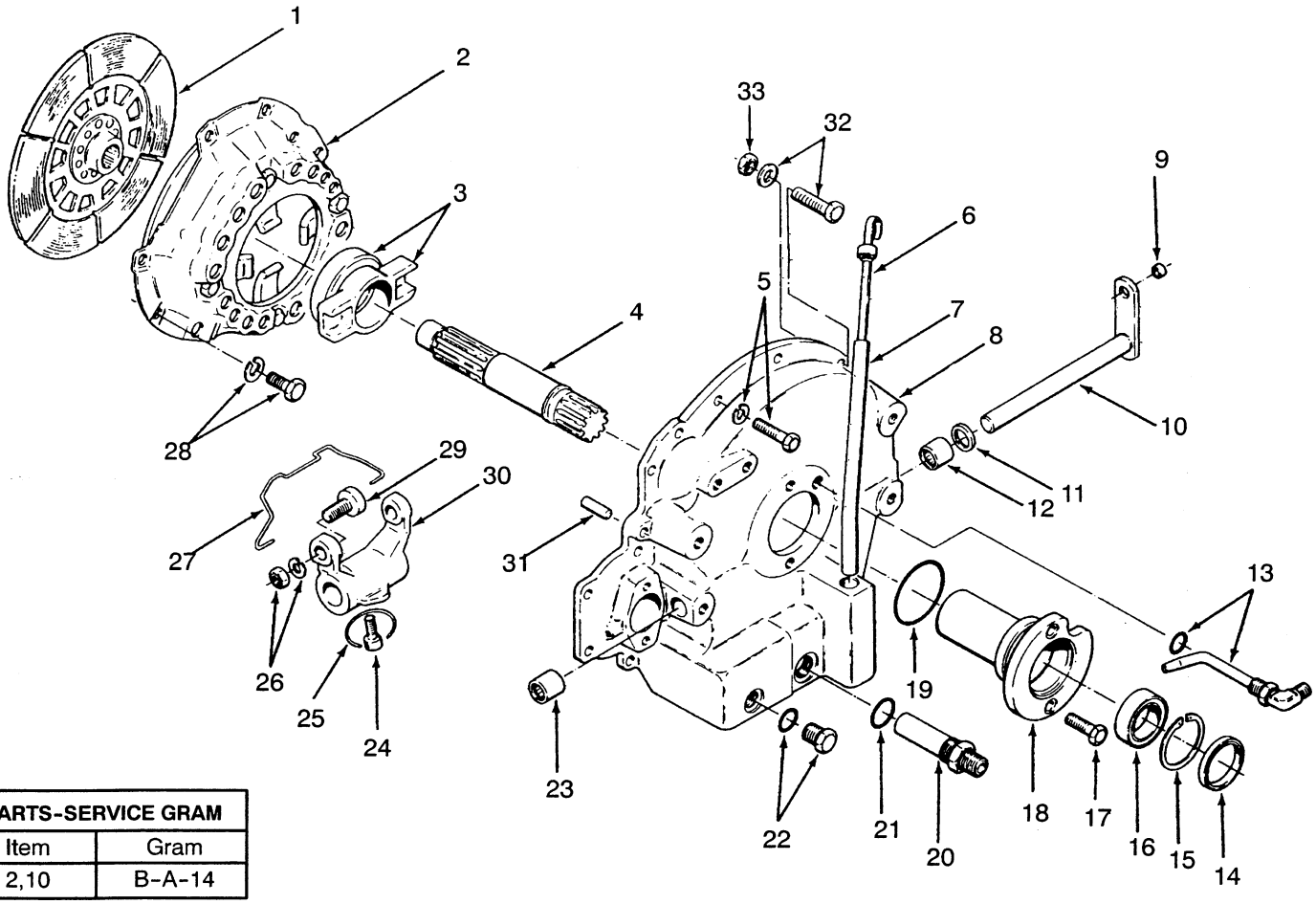
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CLUTCH (FIGURE 124)

OIL CLUTCH



PARTS-SERVICE GRAM	
Item	Gram
2,10	B-A-14

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CLUTCH

OIL CLUTCH

REF		PART NO.	NAME OF PART	QTY
1		1350030	Drive Plate	1
2	a	304444	Cover (Clutch)	1
2	b	1382307	Cover (Clutch)	1
3		366706	Carrier	1
3		230303	Bearing	1
4		292851	Clutch Shaft	1
5		287860	Capscrew	15
5		292682	Lockwasher	15
6		352468	Dipstick	1
7		352466	Tube (Dipstick)	1
8	a	352413	Housing (Clutch)	1
8	b	1381905	Housing (Clutch)	1
9		321027	Bushing	1
10	a	352780	Crank	1
10	b	1381907	Crank	1
11		145753	Oil Seal	1
11		257291	Adhesive	AR
12	a	176356	Needle Bearing	1
12	b	231001	Needle Bearing	1
13		290995	Nozzle	1
13		16483	O-Ring	1
14		44503	Oil Seal	1
15		12921	Snap Ring	1
16		44307	Bearing	1
17		302335	Screw	2
18		352455	Carrier	1
19		39369	O-Ring	1
20		289505	Screen	1
21		16487	O-Ring	1
22		14594	Fitting	1
22		16483	O-Ring	1
23		69017	Bearing	1
23		257291	Adhesive	AR
24		27936	Screw	1
25		67355	Wire	AR
26		15026	Nut	2
26		15156	Lockwasher	2
27		176429	Spring	1
28		277826	Capscrew	8
28		15156	Lockwasher	8
29		172048	Cam Follower	2
30		366705	Yoke	1
31		186420	Dowel Pin	2
32		292517	Capscrew	1
32		292682	Lockwasher	1
33		136692	Nut	1

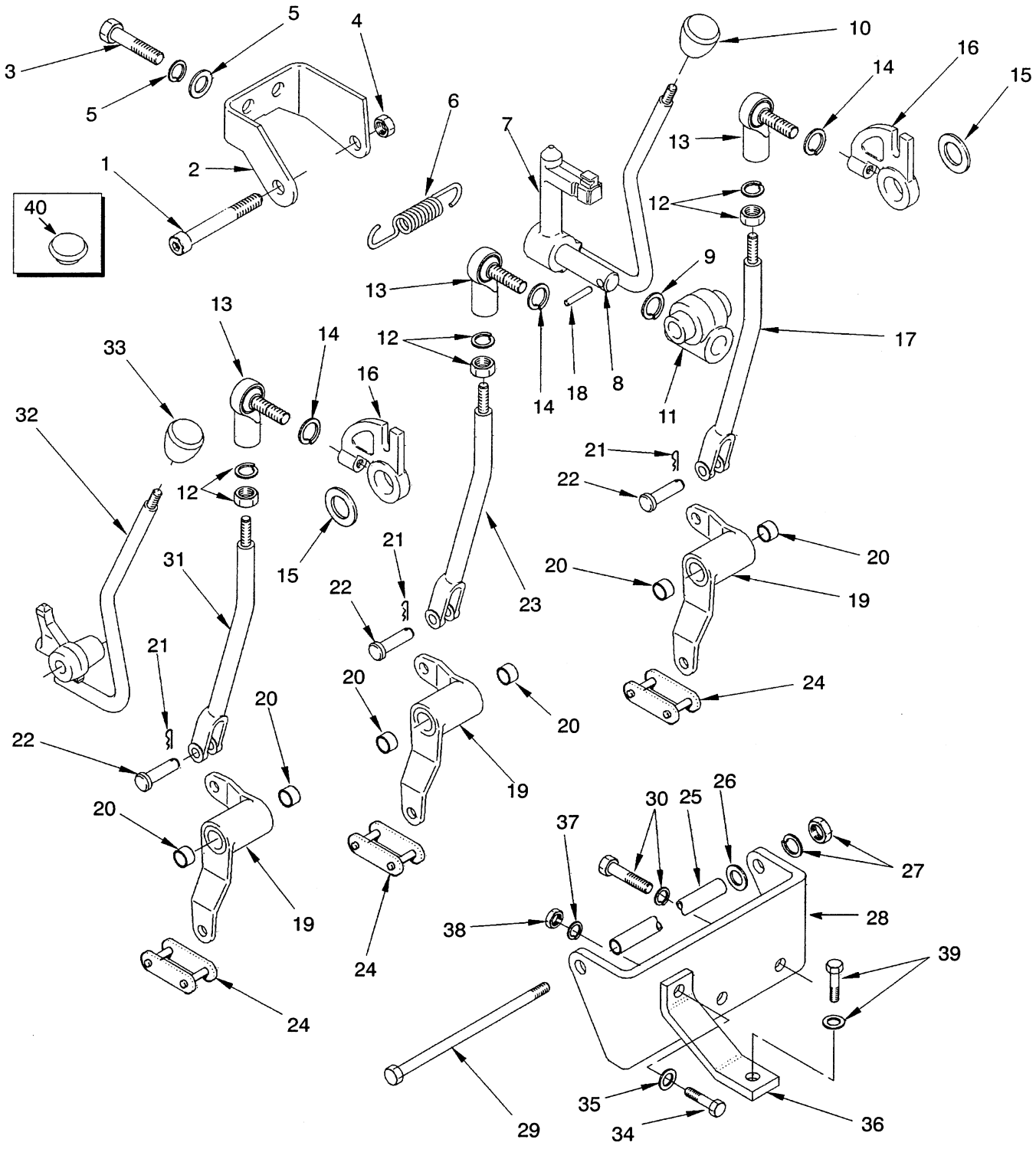
a Last Used On S/N G5D-6372

b First Used On S/N G5D-6373

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CLUTCH CONTROL LINKAGE (FIGURE 125)

OIL CLUTCH



CLUTCH CONTROL LINKAGE

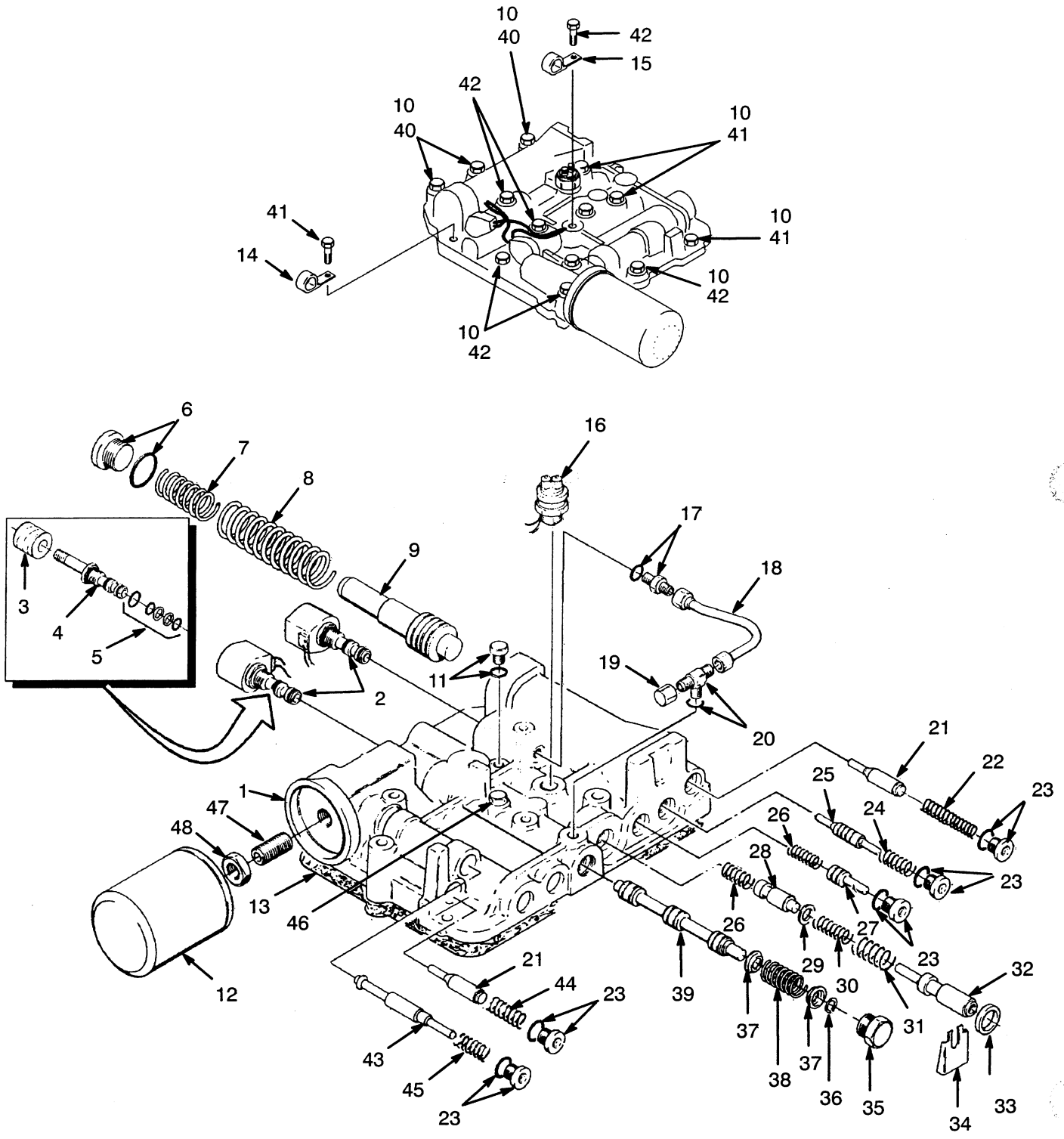
OIL CLUTCH

REF	PART NO.	NAME OF PART	QTY
1	253171	Screw	1
2	1324998	Bracket	1
3	136985	Capscrew	2
4	222671	Nut	1
5	292682	Lockwasher	2
5	320160	Washer	2
6	289743	Spring	1
7	1320102	Lever	1
8	289733	Pin	1
9	289742	Lockwasher	1
10	154899	Knob	1
11	289740	Pivot (Lever)	1
12	15026	Nut	5
12	292682	Lockwasher	5
13	186866	Rod End, RH	3
14	15156	Lockwasher	3
15	289744	Washer	2
16	289738	Crank	2
17	1312678	Link	1
18	19976	Pin (Slotted)	1
19	352441	Crank	3
20	28294	Bushing	2
21	15223	Cotter Pin	3
22	153	Pin	3
23	1312679	Link	1
24	289749	Link (Connector)	3
25	352481	Sleeve	1
26	116848	Shim (.020 in)	AR
27	15056	Nut	1
27	292682	Lockwasher	1
28	1310595	Bracket	1
29	18249	Capscrew	1
30	292682	Lockwasher	2
30	292514	Capscrew	2
31	1312680	Link	1
32	1320100	Lever	1
33	154878	Knob (Forward/Reverse)	1
34	136749	Capscrew	1
35	320157	Washer	1
36	1310582	Bracket	1
37	292681	Lockwasher	1
38	239503	Nut	1
39	136985	Capscrew	1
39	320159	Washer	1
40	1344124	Plug	2

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TRANSMISSION CONTROL VALVE (FIGURE 126)

POWERSHIFT WITH MONOTROL PEDAL



TRANSMISSION CONTROL VALVE

POWERSHIFT WITH MONOTROL

REF		PART NO.	NAME OF PART	QTY
		1322641	Valve	1
1		1313752	Body	1
2		1390609	Solenoid Valve	2
3		1300498	Coil	1
3		1452595	Coil	1
4		1312331	Cartridge	1
4		1452596	Cartridge	1
5		1300486	Kit-Seal	1
5		1393160	Kit-Seal	1
6		200659	Adapter	1
6		16982	O-Ring	1
7		346637	Spring (Inner)	1
8		346636	Spring (Outer)	1
9		346788	Spool	1
10		320157	Lockwasher	12
11		14591	Adapter	1
11		16481	O-Ring	1
12	a	1328691	Filter	1
13		1337801	Gasket	1
14		325897	J-Clamp	1
15		186480	J-Clamp	1
16		1322668	Switch	1
17		16538	Fitting	1
17		16481	O-Ring	1
18		346654	Tube	1
19		16923	Fitting	1
20		16574	Fitting	1
20		16481	O-Ring	1
21		334524	Spool	2
22		1313774	Spring	1
23		235691	Fitting	5
23	a	16484	O-Ring	1

REF		PART NO.	NAME OF PART	QTY
24		346805	Spring	1
25		346634	Spool (Trimmer)	1
26		334543	Spring	2
27		346806	Spool	1
28		346813	Spool	1
29		296418	Washer	1
30		346643	Spring (Inching)	1
31		334531	Spring	1
32		346734	Spool (Inching)	1
33		334500	Oil Seal	1
34		346647	Stop (Inching)	1
35		346653	Plug (Forward/Reverse)	1
36		346650	Snap Ring	1
37		346648	Cap (Spring)	2
38		346645	Spring (Center)	1
39		346644	Spool (Forward/Reverse)	1
40		136704	Capscrew	6
41		292508	Capscrew	3
42		346656	Capscrew	3
43		346768	Spool (Pack)	1
44		346640	Spring	1
45		346770	Spring (Pack)	1
46		14591	Adapter	1
46		16481	O-Ring	1
47		181766	Fitting	1
48		15032	Nut	1

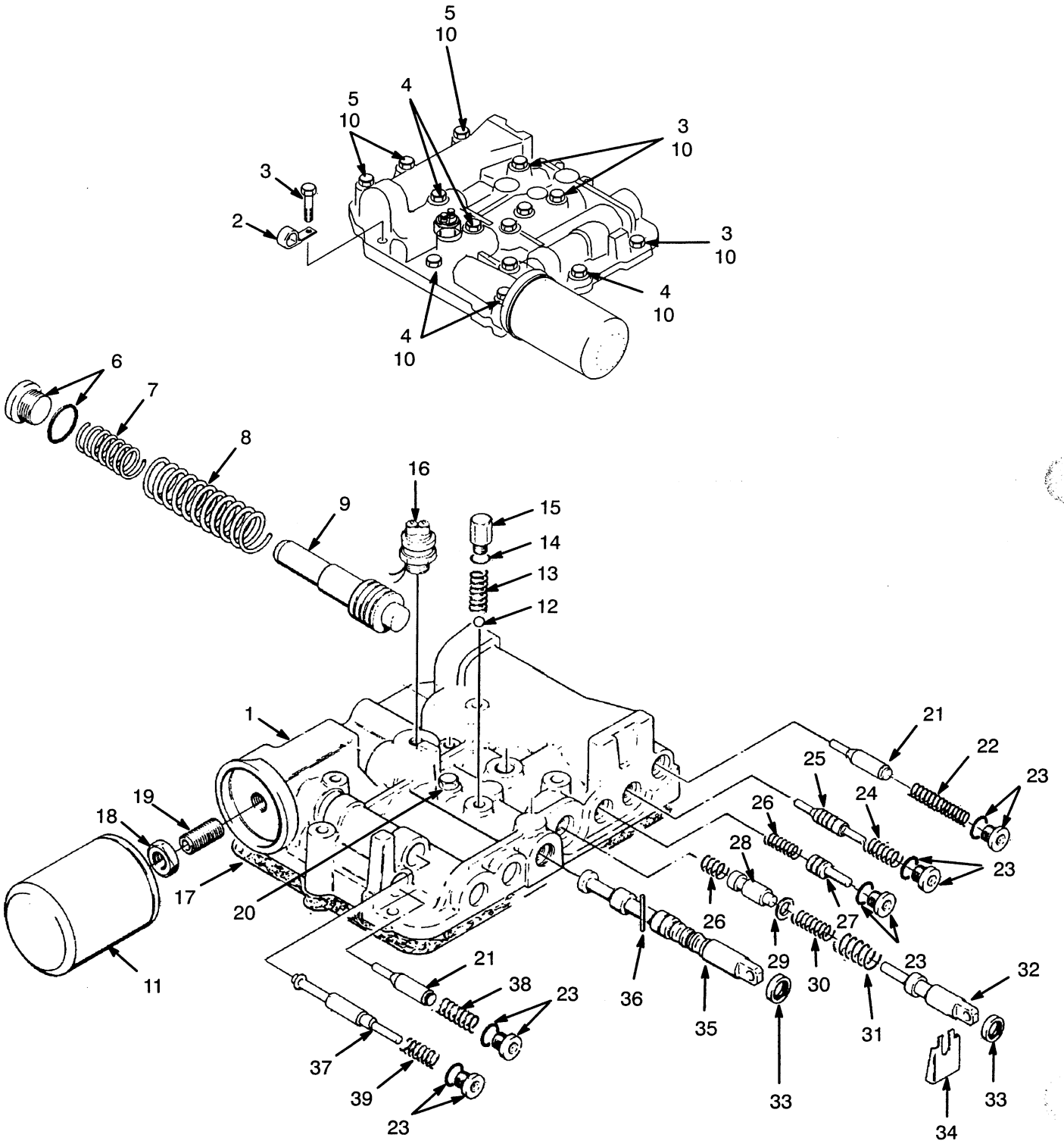
a Included In Overhaul Kit 996192

NOTE: Parts Shown Above Are Transmission Components

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TRANSMISSION CONTROL VALVE (FIGURE 127)

POWERSHIFT WITH FORWARD/REVERSE LEVER



TRANSMISSION CONTROL VALVE

POWERSHIFT WITH FORWARD/REVERSE LEVER

REF		PART NO.	NAME OF PART	QTY
		1322642	Valve	1
1		1313755	Body	1
2		325897	Clamp	1
3		136704	Capscrew	6
4		292508	Capscrew	3
5		346656	Capscrew	3
6		200659	Adapter	1
6		16982	O-Ring	1
7		346637	Spring (Inner)	1
8		346636	Spring (Outer)	1
9		346788	Spool	1
10		320157	Lockwasher	12
11	a	1328691	Filter	1
12		55280	Ball	1
13		334513	Spring	1
14		16482	O-Ring	1
15		334515	Plug	1
16		1322668	Switch	1
17		1337801	Gasket	1
18		15032	Nut	1
19		181766	Fitting	1
20		14591	Adapter	1
20		16481	O-Ring	1
21		334524	Spool	2
22		1313774	Spring	1
23		235691	Fitting	5
23	a	16484	O-Ring	1
24		346805	Spring	1
25		346634	Spool (Trimmer)	1
26		334543	Spring	2
27		346806	Spool	1
28		346813	Spool	1
29		296418	Washer	1
30		346643	Spring (Inching)	1
31		334531	Spring	1
32		346734	Spool (Inching)	1
33		334500	Oil Seal	1
34		346647	Inching Stop	1
35		1337816	Spool	1
36		221989	Pin (Slotted)	1
37		346768	Spool (Pack)	1
38		346640	Spring	1
39		346770	Spring (Pack)	1

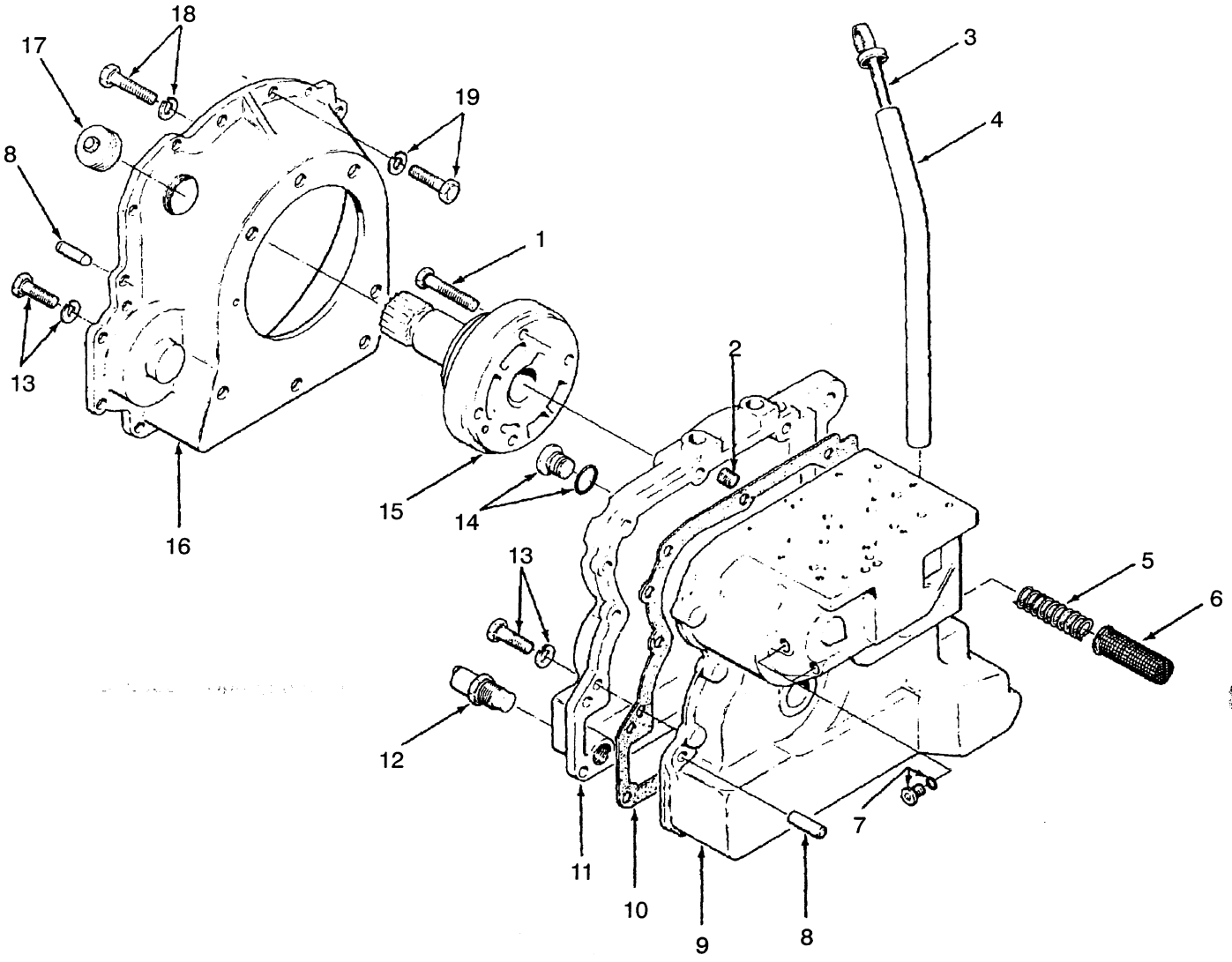
a Included In Overhaul Kit 996192

NOTE: Parts Shown Above Are Transmission Components

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TRANSMISSION (FIGURE 128)

POWERSHIFT



REF		PART NO.	NAME OF PART	QTY
	a	1352293	Transmission (2200 RPM)	1
	a	1322665	Transmission (2500 RPM)	1
	b	1352294	Transmission (2200 RPM)	1
	b	1322666	Transmission (2500 RPM)	1
1		292517	Capscrew	4
2		15483	Fitting	2
3		352468	Dipstick	1
4		352466	Tube (Dipstick)	1
5		346681	Spring	1
6		346680	Screen	1
7		222443	Adapter	2
7	c	16483	O-Ring	1
8		186420	Dowel Pin	4
9		1309808	Housing	1
10	c	346705	Gasket	1
11		1313767	Cover	1

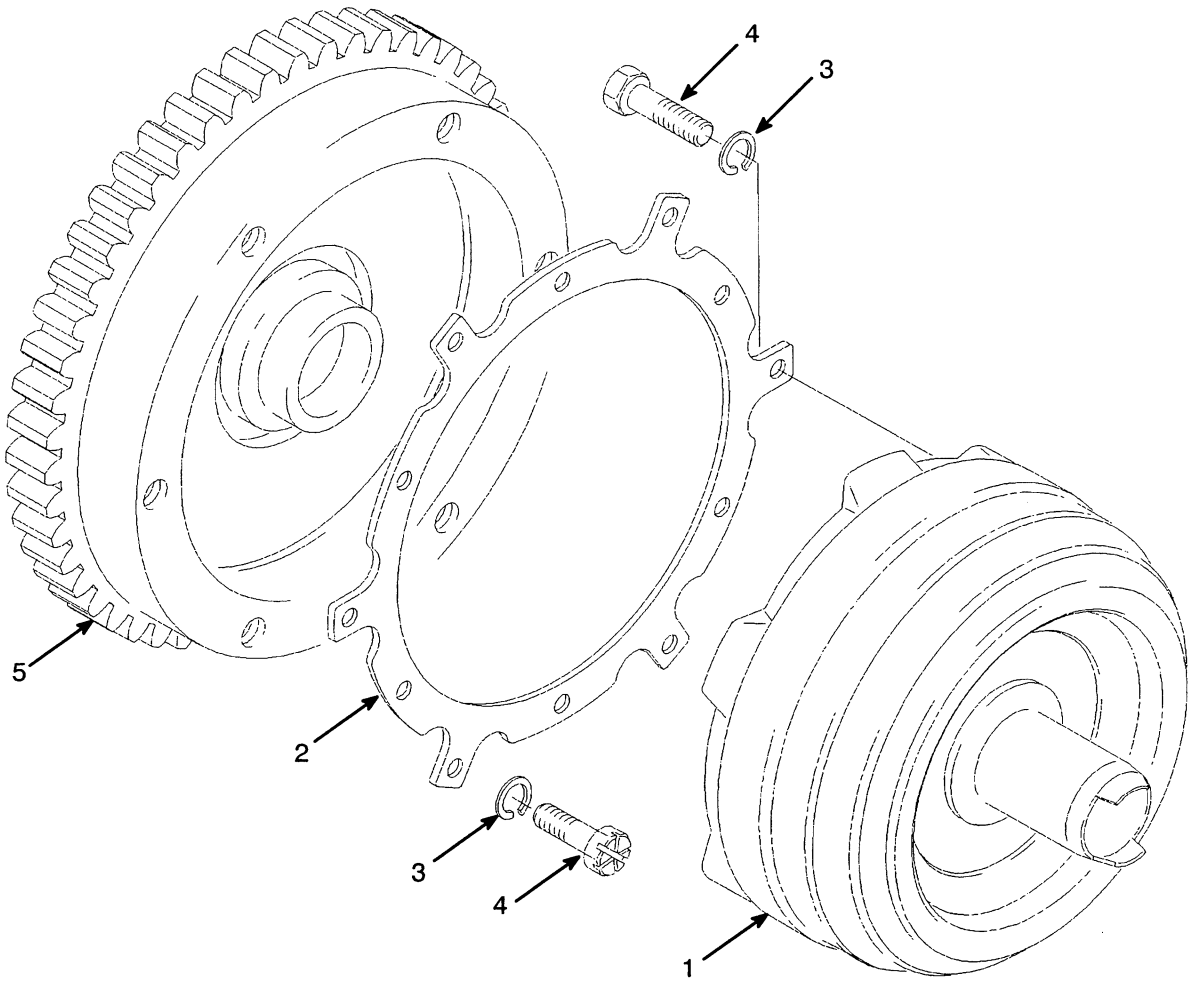
REF		PART NO.	NAME OF PART	QTY
12		1322627	Switch (Temperature)	1
13		136985	Capscrew	16
13		292682	Lockwasher	16
14		188210	Fitting	1
14	c	16983	O-Ring	1
15	c	1320018	Charge Pump	1
16		1386933	Housing	1
17		346762	Plug	1
18		292524	Capscrew	1
18		292682	Lockwasher	4
19		287860	Capscrew	15
19		292682	Lockwasher	15

a Monotrol Pedal
b Forward/Reverse Lever
c Included In Overhaul Kit 996192

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TORQUE CONVERTER (FIGURE 129)

POWERSHIFT

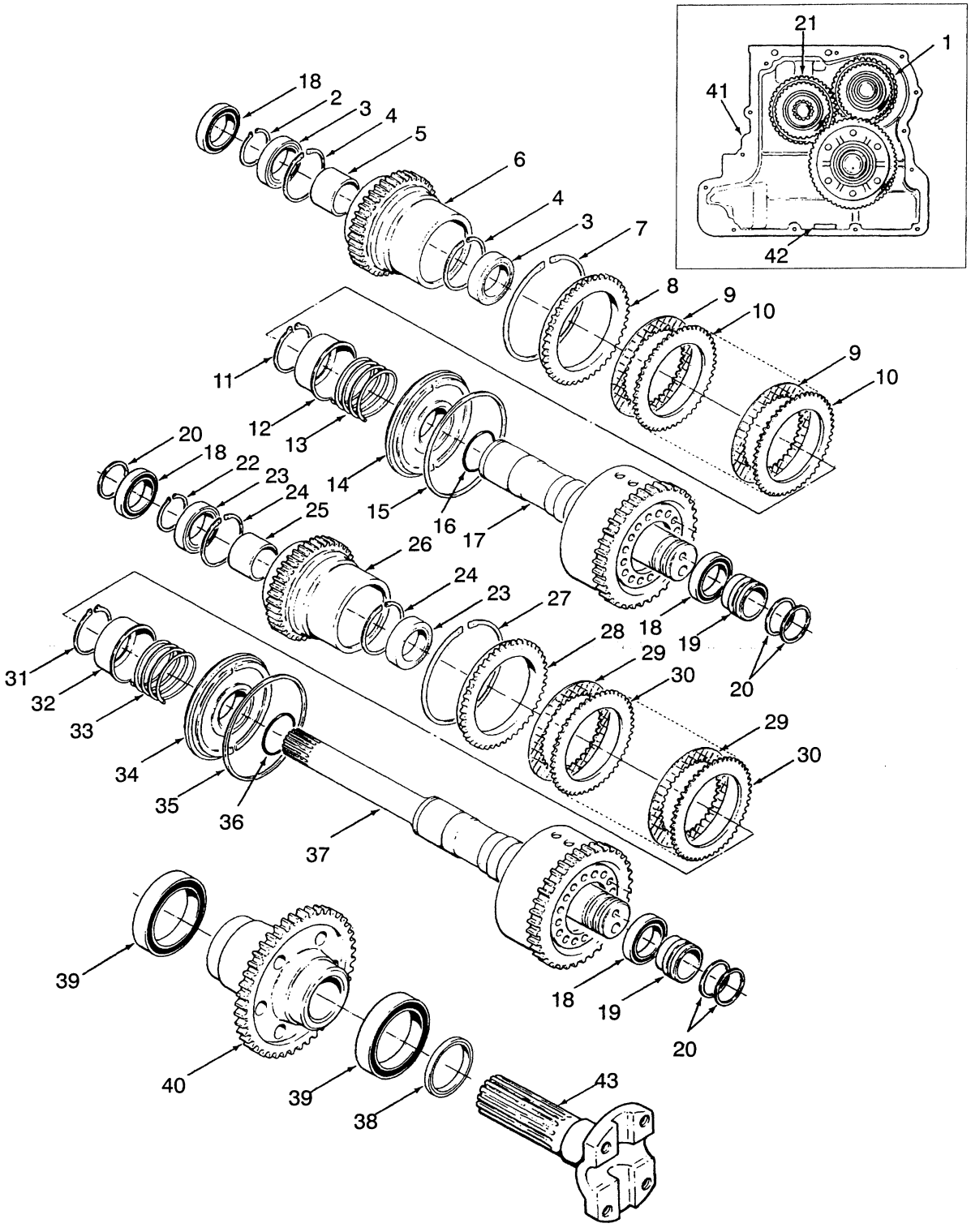


REF	PART NO.	NAME OF PART	QTY
1	1383785	Torque Converter (2200 RPM)	1
1	344343	Torque Converter (2500 RPM)	1
2	1343307	Plate (2200 RPM)	1
2	304464	Plate (2500 RPM)	1
3	261379	Washer	8
4	15942	Bolt	8
5	.....	Flywheel	1
		☞ Figure 11	

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CLUTCH PACK (FIGURE 130)

POWERSHIFT



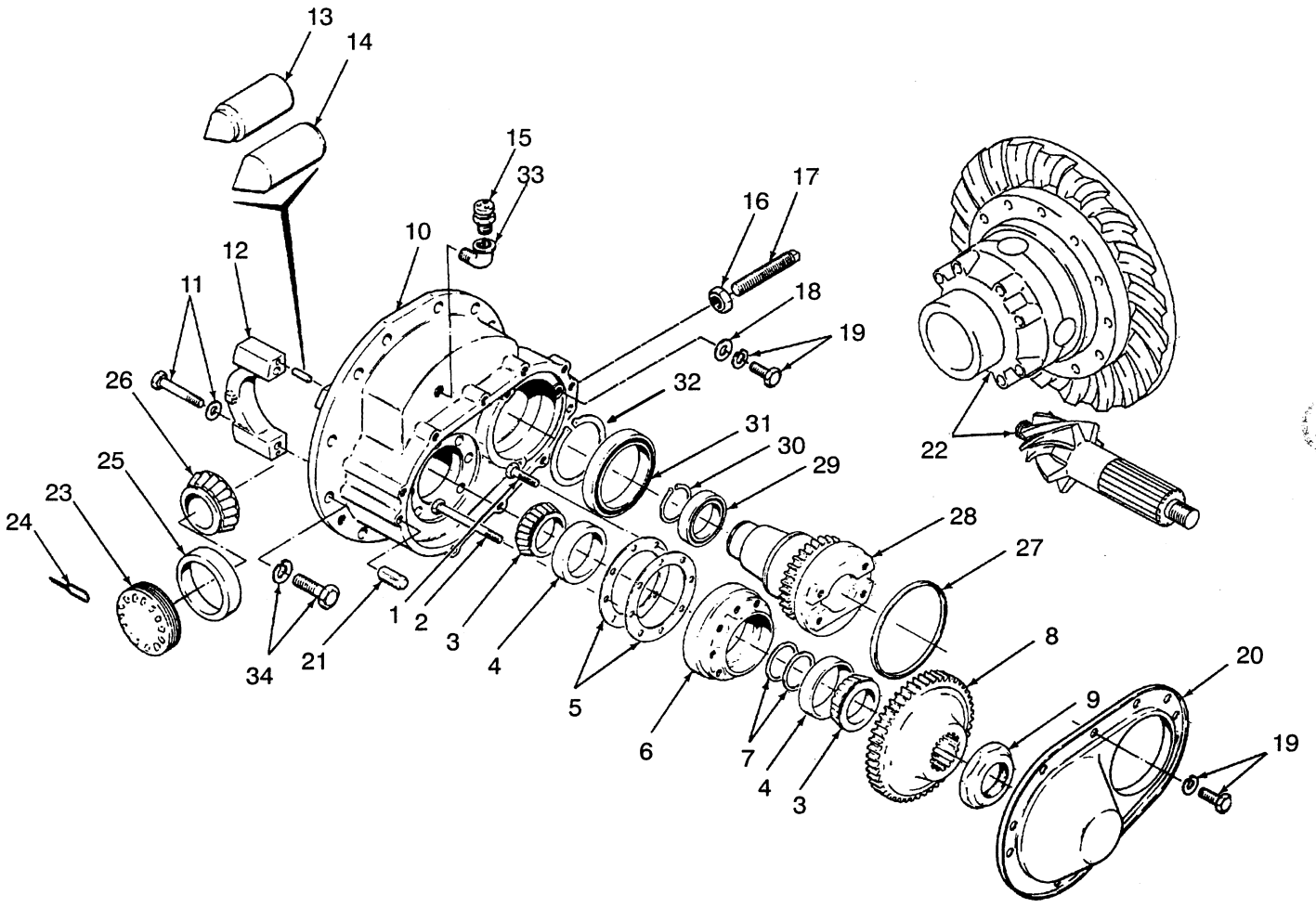
CLUTCH PACK
POWERSHIFT

REF		PART NO.	NAME OF PART	QTY
	a	1352293	Transmission (2200 RPM)	1
	a	1322665	Transmission (2500 RPM)	1
	b	1352294	Transmission (2200 RPM)	1
	b	1322666	Transmission (2500 RPM)	1
1		1352292	Clutch (2200 RPM)	1
1		346834	Clutch (2500 RPM)	1
2	c	346675	Snap Ring	1
3		124606	Bearing	2
4	c	12894	Snap Ring	2
5		346615	Spacer	1
6		1337427	Gear (2200 RPM)	1
6		346832	Gear (2500 RPM)	1
7	c	334475	Snap Ring	1
8	c	334442	Pressure Plate	1
9		346796	Friction Plate	8
10	c	334417	Separator Plate	8
11	c	334480	Snap Ring	1
12		346624	Cup	1
13	c	346671	Spring	1
14		334439	Piston	1
15	c	334402	Seal	1
16		346795	O-Ring	1
17		346718	Shaft (Forward)	1
18	c	41208	Ball Bearing	4
19	c	346716	Bushing	2
20	c	346677	Seal Ring	5
21		1352291	Clutch (Input) (2200 RPM)	1
21		346831	Clutch (Input) (2500 RPM)	1
22		346675	Snap Ring	1
23	c	124606	Bearing	2
24		12894	Snap Ring	2
25		346615	Spacer	1
26		1337427	Gear (2200 RPM)	1
26		346832	Gear (2500 RPM)	1
27		334475	Snap Ring	1
28		334442	Pressure Plate	1
29	c	346796	Friction Plate	8
30		334417	Separator Plate	8
31		334480	Snap Ring	1
32		346624	Cup	1
33		346671	Spring	1
34		334439	Piston	1
35		334402	Seal	1
36	c	346795	O-Ring	1
37		346709	Shaft (Input)	1
38	c	44503	Oil Seal	1
39	c	44314	Ball Bearing	2
40		1337428	Gear (Output) (2200 RPM)	1
40		346721	Gear (Output) (2500 RPM)	1
41		....	Housing ☞ Figure 128	1
42		334560	Magnet	1
42	c	313022	Adhesive	AR
43		346723	Yoke	1

a Monotrol Pedal
b Forward/Reverse Lever
c Included In Overhaul Kit 996192

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SPEED REDUCER (FIGURE 131)



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SPEED REDUCER

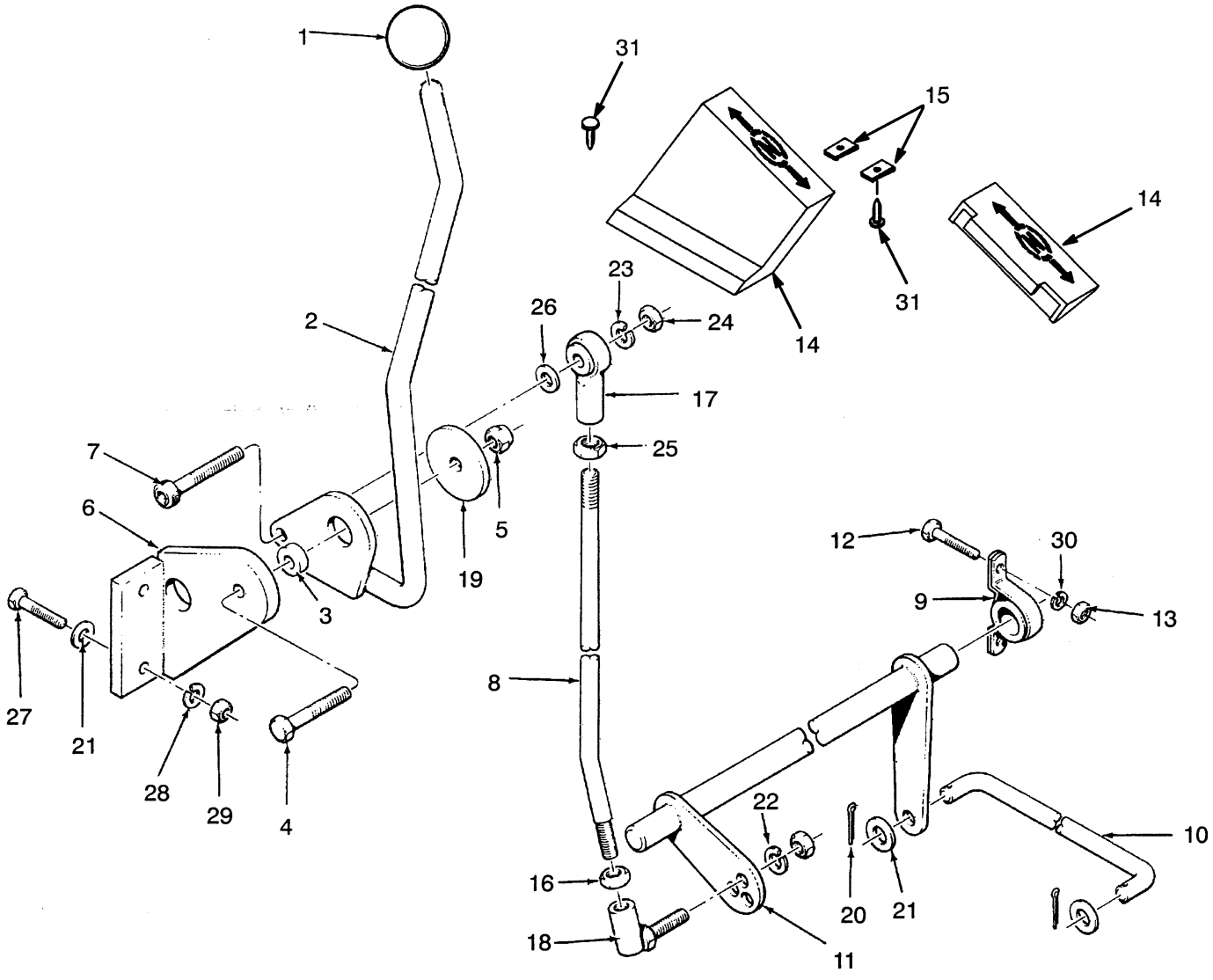
KEY:
A: H70-80XL And H90XLS
B: H90-110XL

REF	PART NO.	NAME OF PART	QTY A	QTY B
	1352688	Speed Reducer	1	..
	1352689	Speed Reducer	..	1
1	293645	Capscrew	3	3
2	293660	Capscrew	5	5
3	30174	Bearing Cone	2	2
4	200972	Bearing Cup	2	2
5	352335	Shim (0.127 mm)	ARAR	
5	352334	Shim (0.178 mm)	ARAR	
5	352333	Shim (0.508 mm)	ARAR	
6	352326	Carrier	1	1
7	202568	Spacer (0.238 mm)	ARAR	
7	202569	Spacer (0.239 mm)	ARAR	
7	202570	Spacer (0.240 mm)	ARAR	
7	202571	Spacer (0.241 mm)	ARAR	
7	202572	Spacer (0.242 mm)	ARAR	
7	202573	Spacer (0.243 mm)	ARAR	
7	202575	Spacer (0.255 mm)	ARAR	
7	202576	Spacer (0.261 mm)	ARAR	
7	202577	Spacer (0.267 mm)	ARAR	
7	202578	Spacer (0.273 mm)	ARAR	
7	271866	Spacer (0.279 mm)	ARAR	
7	271867	Spacer (0.285 mm)	ARAR	
7	271868	Spacer (0.291 mm)	ARAR	
7	271869	Spacer (0.297 mm)	ARAR	
7	271870	Spacer (0.303 mm)	ARAR	
8	1352281	Gear	1	1
9	352317	Nut	1	1
9	226414	Adhesive	ARAR	
10	352336	Housing	1	1
11	293696	Capscrew	4	4
11	296426	Flatwasher	4	4
12	....	Bearing Cap	2	2
13	234038	Dowel Pin	4	4
14	334413	Dowel Pin	4	4
15	21420	Plug (Breather)	1	1
16	296136	Nut	1	1
17	352321	Screw (Thrust)	1	1
18	320157	Washer	3	3
19	292681	Lockwasher	13	13
19	287851	Capscrew	13	13
20	352862	Cover	1	1
20	288394	Sealant	ARAR	
21	310566	Pin	2	2
22	....	Ring Gear And Pinion ☞ Figure 138	1	1
23	352366	Nut	2	..
23	234034	Nut	..	2
24	86008	Cotter Pin	2	2
25	230413	Bearing Cup	2	2
26	271479	Bearing Cone	2	..
26	30161	Bearing Cone	..	2
27	352369	Oil Seal	1	1
28	352329	Shaft (Input)	1	1
29	43207	Ball Bearing	1	1
30	58901	Snap Ring	1	1
31	43216	Bearing	1	1
32	307276	Snap Ring	1	1
33	15378	Fitting	1	1
34	293646	Capscrew	12	12
34	292683	Lockwasher	12	12
34	313022	Sealant	ARAR	

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FORWARD LINKAGE AND REVERSE SHIFT LEVER (FIGURE 132)

POWERSHIFT



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FORWARD LINKAGE AND REVERSE SHIFT LEVER

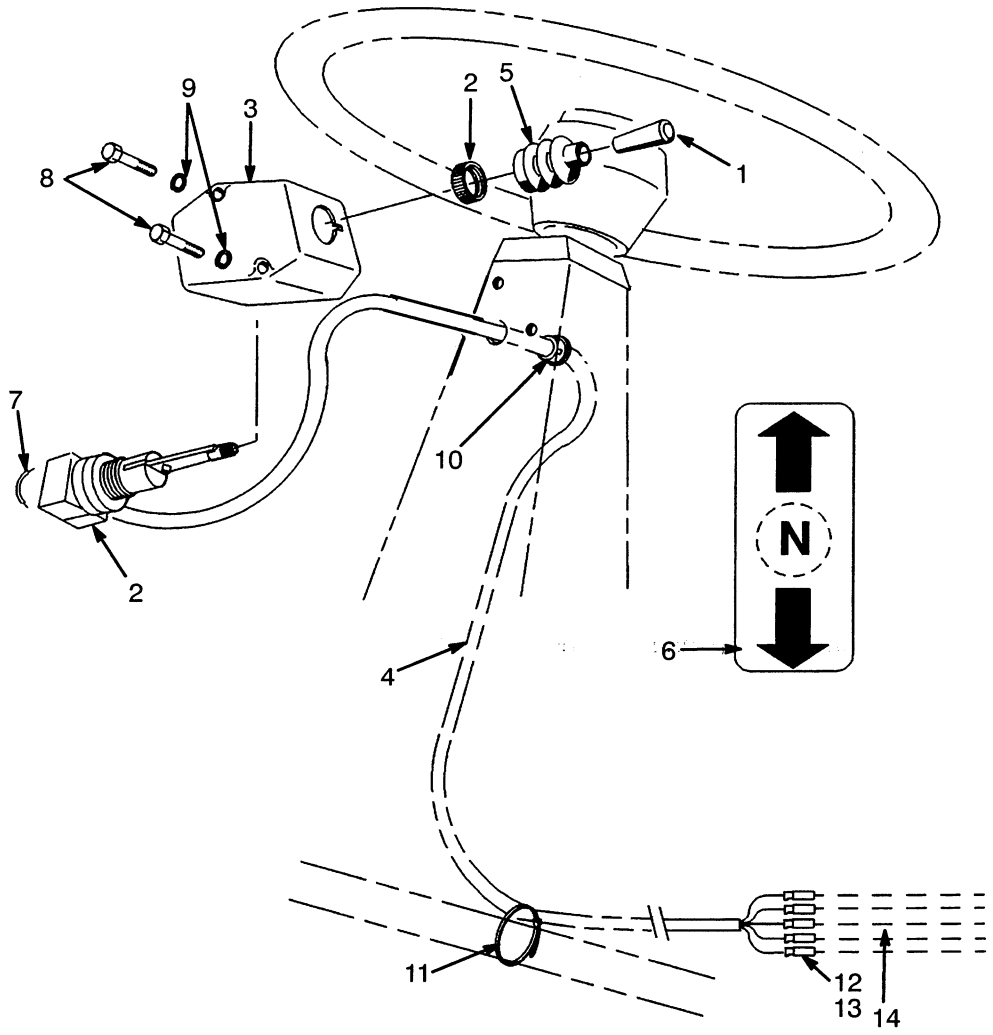
POWERSHIFT

REF	PART NO.	NAME OF PART	QTY
1	370624	Knob	1
2	1344063	Shift Lever	1
3	1303158	Bushing	1
4	292515	Capscrew	1
5	316826	Nut	1
6	1310986	Bracket	1
7	16316	Capscrew	1
8	1311021	Rod	1
9	313859	Bearing	2
10	1308342	Link	1
11	1309098	Shaft	1
12	292501	Capscrew	4
13	136687	Nut	4
14	1344058	Indicator	1
15	1344062	Nut	2
16	15025	Nut	2
17	161652	Rod End	1
18	157593	Ball Joint	1
19	1300139	Washer	1
20	18828	Cotter Pin	2
21	320157	Washer	4
22	15155	Lockwasher	1
23	15156	Lockwasher	1
24	15056	Nut	1
25	15026	Nut	1
26	15134	Washer	1
27	176640	Capscrew	2
28	292681	Lockwasher	2
29	239503	Nut	2
30	292680	Lockwasher	4
31	1301284	Screw	2

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FORWARD AND REVERSE SWITCH (FIGURE 133)

POWERSHIFT

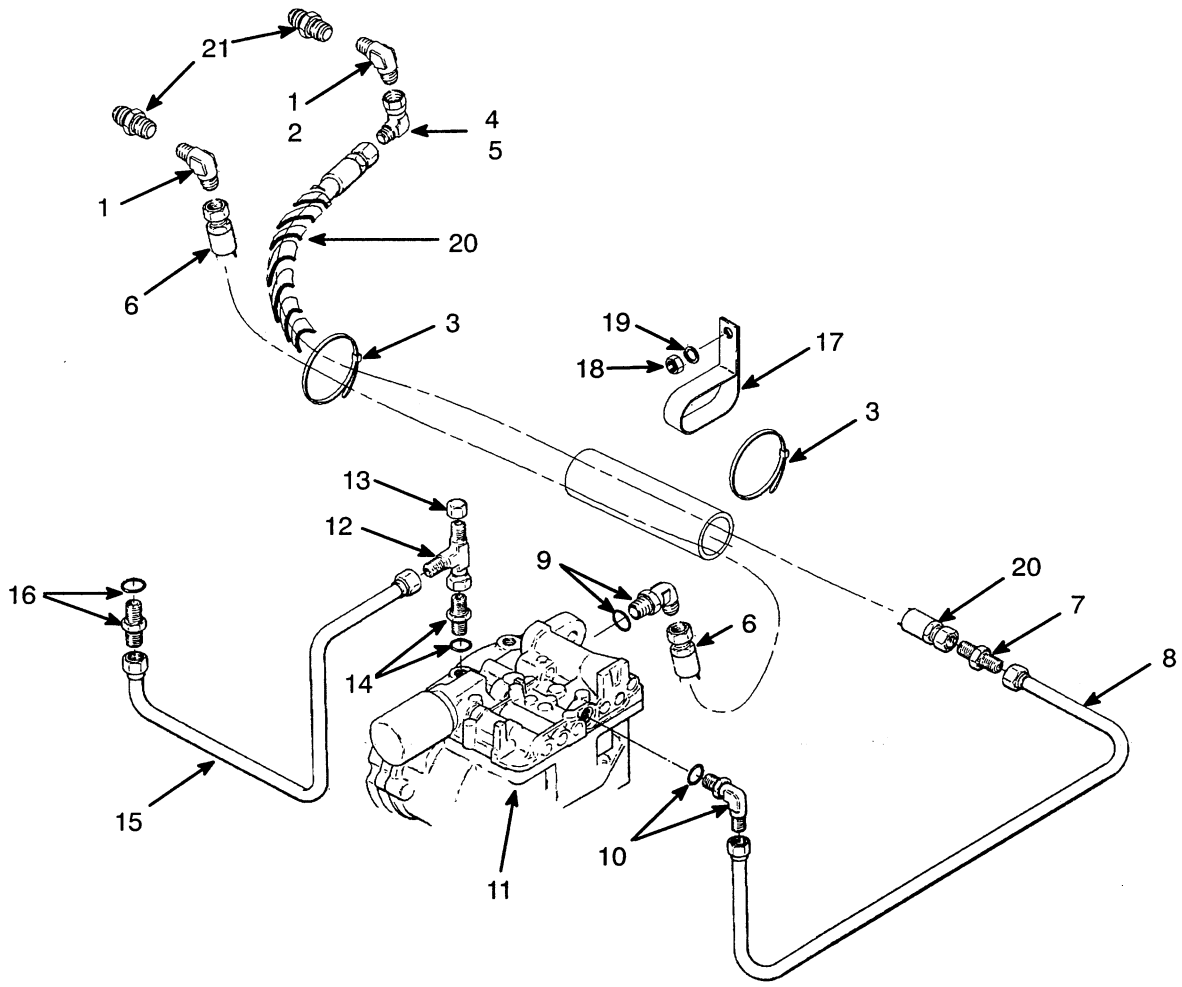


REF	PART NO.	NAME OF PART	QTY
	1308334	Lever (Forward/Reverse)	1
1	289143	Handle	1
2	1324744	Switch	1
2	....	Nut	1
3	1308325	Housing	1
4	1308332	Harness	1
5	289166	Boot	1
6	309684	Label (F/R Lever)	1
7	1324737	Wire	1
8	337239	Capscrew	2
9	292680	Lockwasher	2
10	286901	Bushing	1
11	2004005	Strap Clamp	30
12	134812	Connector	5
13	181046	Insulator	5
14	1324664	Harness	1

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TRANSMISSION PIPING (FIGURE 134)

POWERSHIFT



REF		PART NO.	NAME OF PART	QTY
1	a	66997	Fitting	2
2	b	201787	Fitting	1
3		273775	Strap Clamp	2
4	ac	17039	Fitting (Some Earlier Models)	1
4	a	16882	Fitting	1
5	c	16882	Fitting	1
6		1326928	Hose	1
7		14693	Fitting	1
8		352749	Tube	1
9		16569	Fitting	1
9		16485	O-Ring	1
10		16560	Fitting	1
10		16485	O-Ring	1
11		....	Control Valve ☞ Figure 127	1
12		17059	Fitting	1

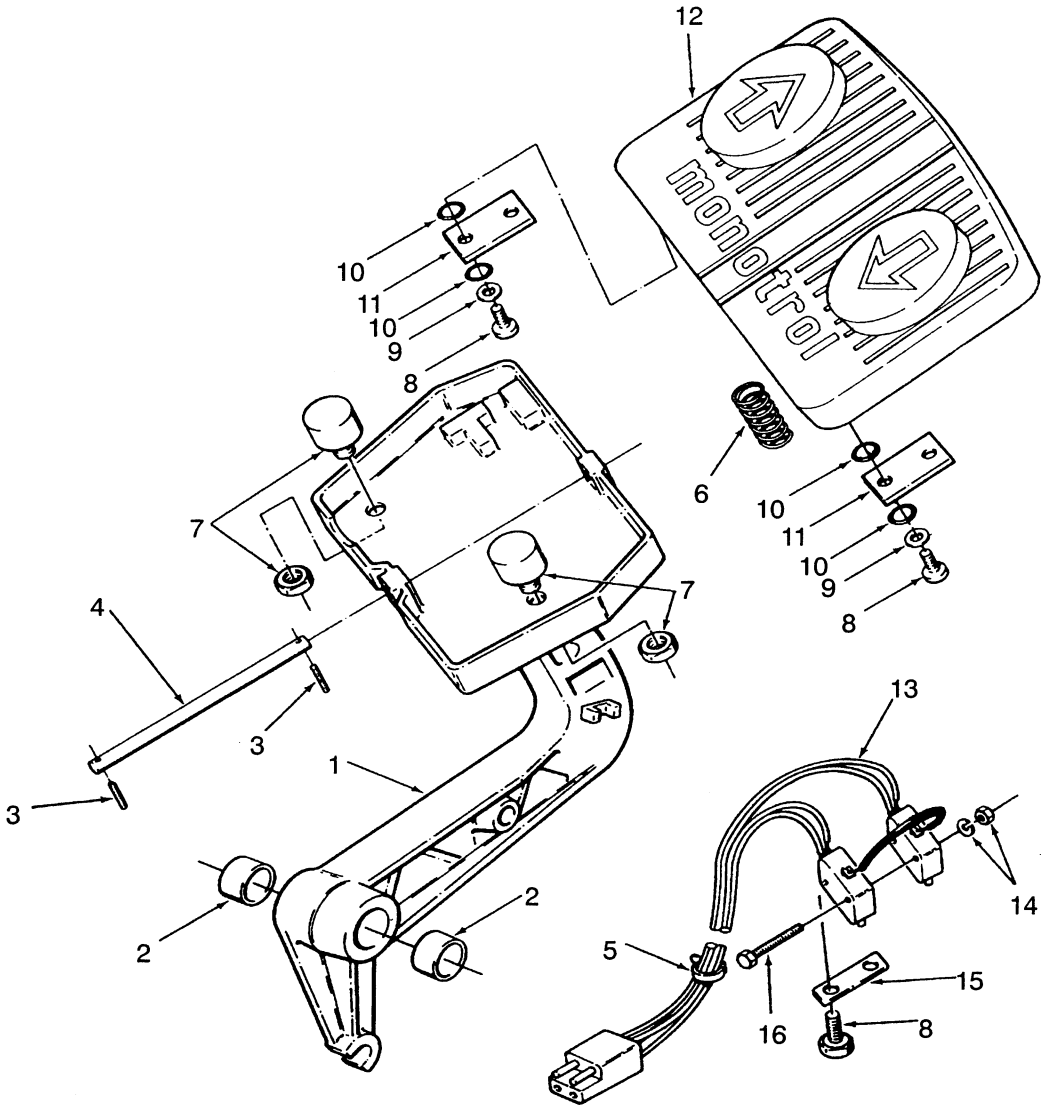
REF		PART NO.	NAME OF PART	QTY
13		16923	Fitting	1
14		222381	Fitting	1
14		16484	O-Ring	1
15		352892	Tube	1
16		222380	Fitting	1
16		16482	O-Ring	1
17		1326652	Clamp	1
18		239503	Nut	1
19		292681	Lockwasher	1
20	a	1331038	Hose	1
20	c	1326928	Hose	1
21	b	14681	Fitting	2

a H70-80XL And H90XLS
b H90-110XL
c Last Used on S/N G5D-2525

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MONOTROL PEDAL (FIGURE 135)

POWERSHIFT



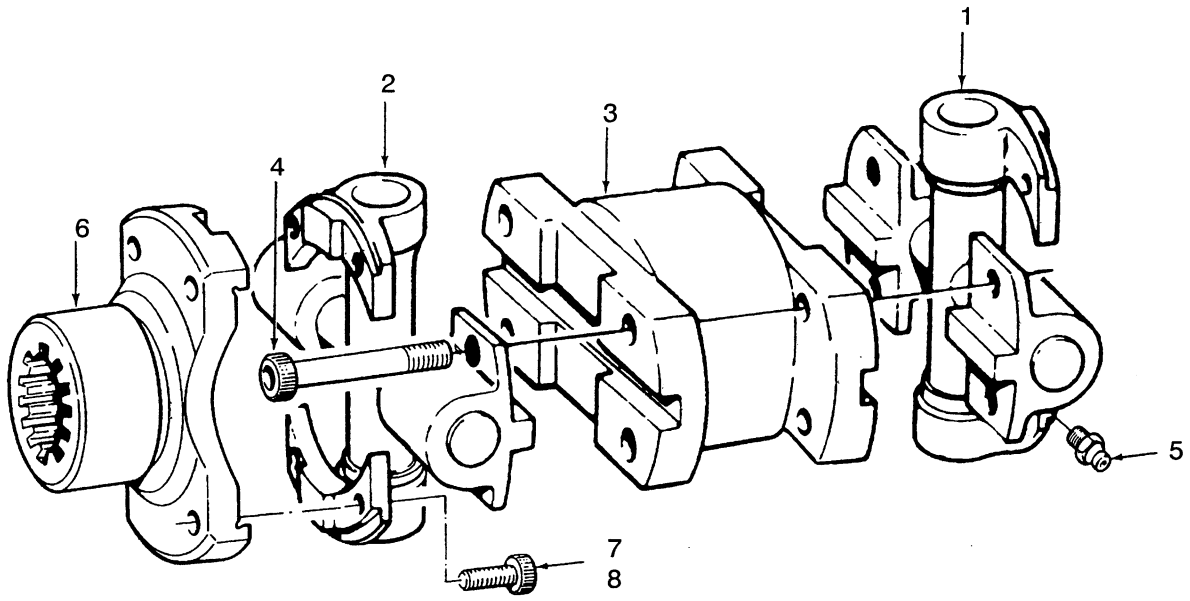
REF	PART NO.	NAME OF PART	QTY
	353398	Pedal	1
1	353397	Pedal	1
2	135685	Bushing	2
3	220932	Screw	2
3	360387	Adhesive	AR
4	353154	Pin	1
5	114312	Strap Clamp	3
6	353168	Spring	1
7	353422	Magnet	2
7	353432	Nut (Jam)	2

REF	PART NO.	NAME OF PART	QTY
8	352969	Screw	6
9	353448	Washer	4
10	57568	O-Ring	8
11	359207	Plate	2
12	353175	Pad	1
13	353220	Switch/Harness	1
14	53162	Lockwasher	2
14	16865	Nut	2
15	353165	Retainer	1
16	220434	Screw	2

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See Service Manual
for service procedures

UNIVERSAL JOINT (FIGURE 136)

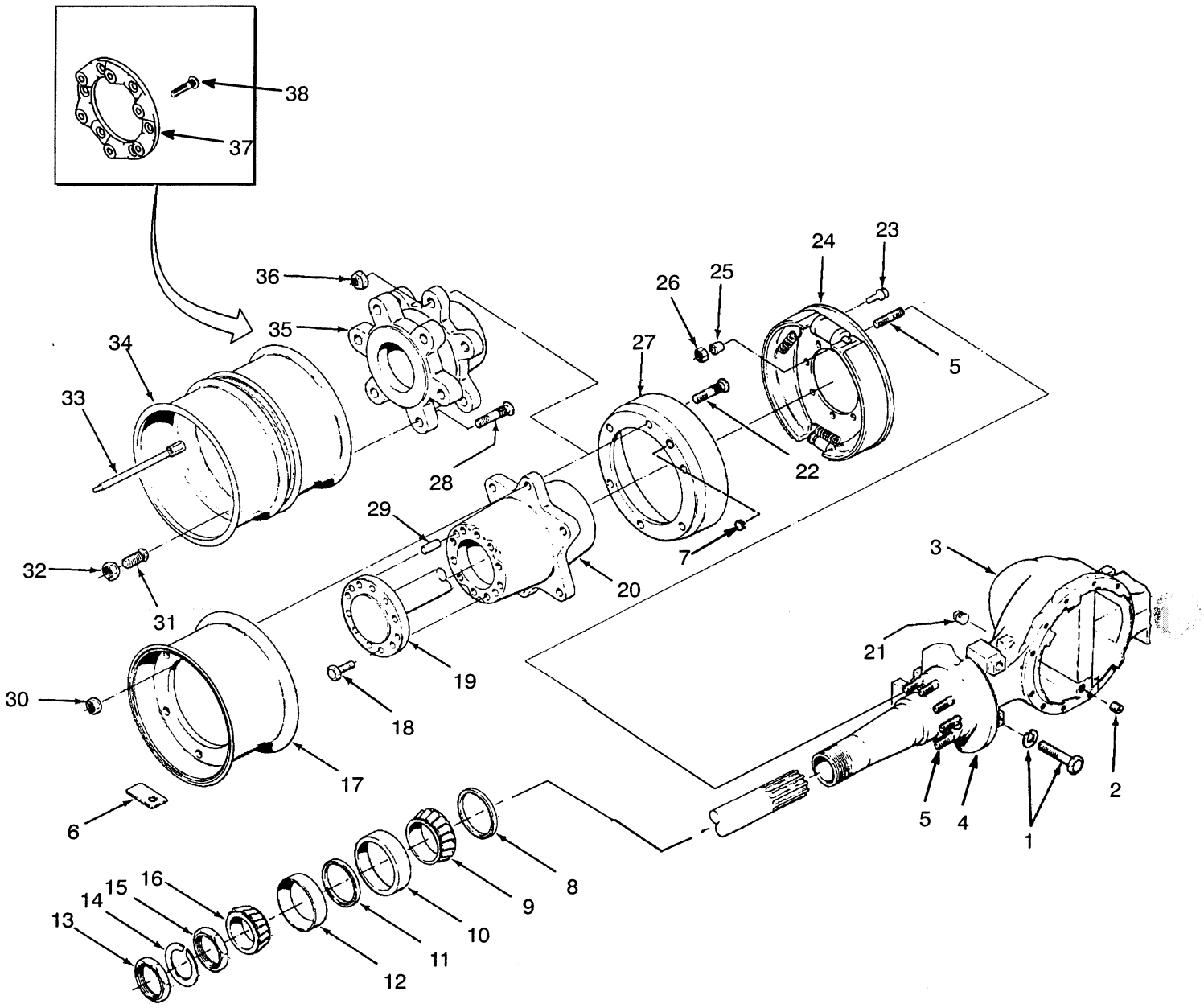


KEY:
A: Oil Clutch
B: Powershift

REF	PART NO.	NAME OF PART	QTY A	QTY B
	289720	Universal Joint	1	..
	289799	Universal Joint	..	1
1	253997	Spider/Bearing	1	..
1	323228	Spider/Bearing	..	1
2	253996	Spider/Bearing	1	..
2	323229	Spider/Bearing	..	1
3	316234	Yoke	1	..
3	53073	Yoke	..	1
4	1318322	Capscrew	4	..
4	1318320	Capscrew	..	4
5	16041	Grease Fitting	2	..
5	358053	Grease Fitting	..	2
6	289721	Yoke	1	..
6	289724	Plug	1	..
7	226414	Adhesive	AR	AR
8	237265	Capscrew	8	..
8	221503	Capscrew	..	8

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DRIVE AXLE (FIGURE 137)



DRIVE AXLE

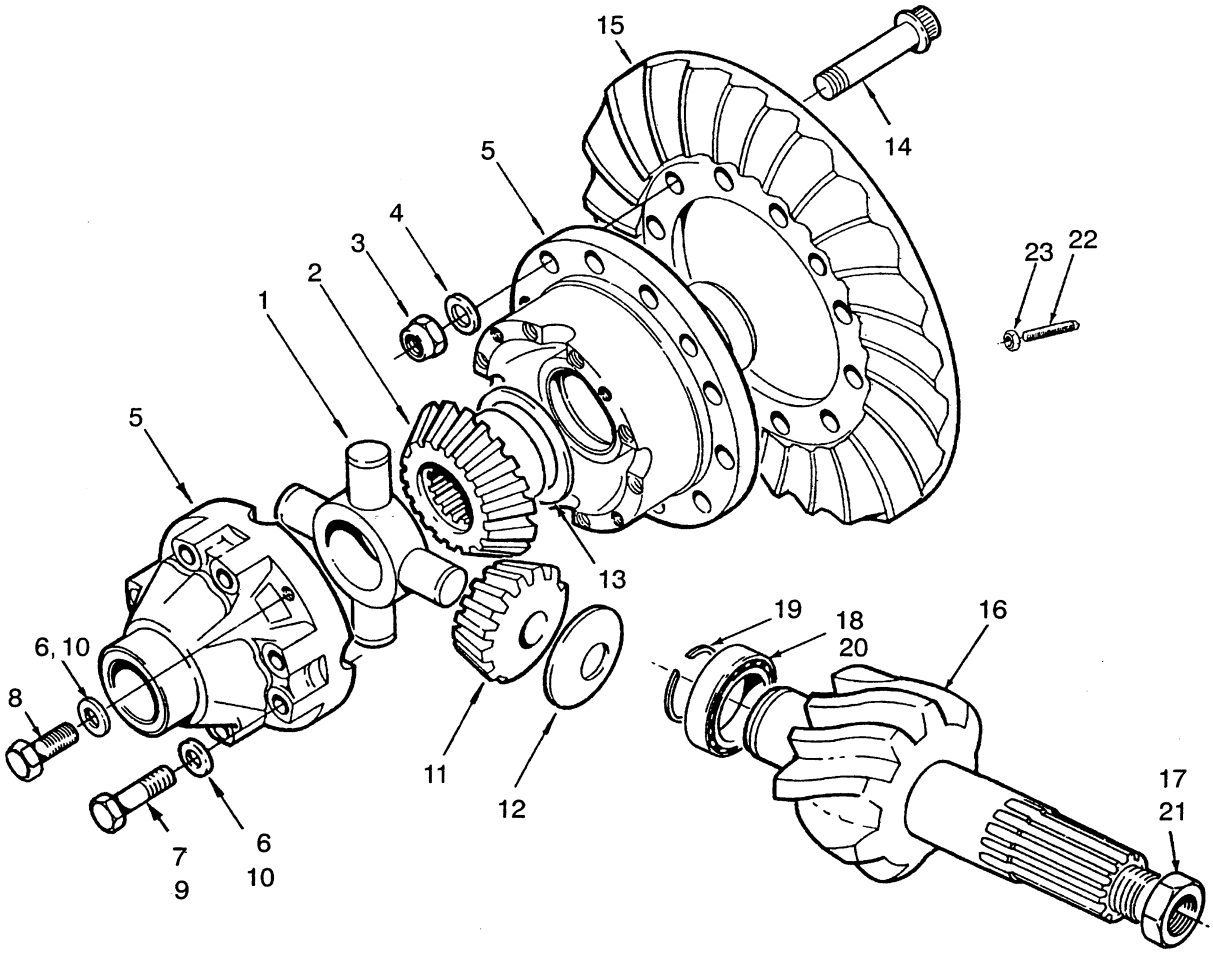
KEY:
A: H70-80XL And H90XLS Single Wheel
B: H70-80XL And H90XLS Dual Wheel
C: H90-110XL Single Wheel
D: H90-110XL Dual Wheel

Ref		Part No.	Name Of Part	QTY A	B	C	D
1		352234	Capscrew	4	4	4	4
1		221780	Washer	4	4	4	4
2		15290	Fitting	1	1	1	1
3		1304380	Axle	1	1	..	..
3		1304381	Axle	..	..	1	1
3		....	Housing	1	1	..	..
3		....	Housing	..	..	1	1
4		....	Spindle	2	2	2	2
4		....	Seal	2	2	2	2
5		158359	Stud	14	14	14	14
6	a	336555	Plate	2	..	2	..
7		1343732	Plug	2	2	2	2
8		1328682	Seal	2	2	2	2
9		352219	Bearing Cone	2	2	2	2
10		30232	Bearing Cup	2	2	2	2
11		87382	Oil Seal	2	2	2	2
12		30232	Bearing Cup	2	..	2	..
12		230324	Bearing Cup	..	2	..	2
13		352177	Locknut	2	2	2	2
14		116067	Lockwasher	2	2	2	2
15		352182	Locknut	2	2	2	2
16		352219	Bearing Cone	2	..	2	..
16		230325	Bearing Cone	..	2	..	2
17		....	Wheel (Single)	2	..	2	..
			☞ Figure 215, Figure 216				
18		293685	Capscrew	20	20	20	20
19	b	352150	Axle Shaft	2	2	..	..
19	c	352184	Axle Shaft	2	2	..	..
19		352150	Axle Shaft	..	..	2	2
20		1328694	Hub	2	..	2	..
21		15303	Fitting	1	1	1	1
21	d	15315	Fitting	1	1	1	1
22		178264	Bolt (4.12 in)	12	..	12	..
22		54622	Stud (2.38 in)	..	12	..	12
23		28340	Screw	2	2	2	2
24		....	Brake	2	2	2	2
			☞ Figure 142				
25		153778	Thimble	14	14	14	14
26		278326	Nut	14	14	14	14
27		1343733	Drum	2	2	2	2
28		125743	Bolt	..	12	..	12
29		352220	Dowel Pin	4	4	4	4
30		11276	Nut	12	..	12	..
31		11287	Nut	..	12	..	12
32		11286	Nut	..	12	..	12
33		49189	Valve Extension	..	2	..	2
34		....	Wheel (Dual)	..	4	..	4
			☞ Figure 217				
35		1328693	Hub (Dual)	..	2	..	2
36		248320	Locknut	..	12	..	12
37	e	1309078	Adapter	..	2	..	2
38	e	141720	Bolt	..	6	..	6

a 16 And 18 Ply Tires
b Oil Clutch
c Powershift
d Optional
e Dual Wheel Conversion

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DIFFERENTIAL (FIGURE 138)



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DIFFERENTIAL

KEY:
A: H70-80XL, H90XLS Powershift
B: H90-110XL Powershift
C: H70-110XL Oil Clutch
D: H70-110XL Oil Clutch-Optional

Ref		Part No.	Name Of Part	QTY A	B	C	D
	a	352166	Differential (5.286:1)	1	..	..	..
	a	352169	Differential (6.167:1)	..	1	..	..
		332837	Differential (7.200:1)	..	..	1	..
		217822	Differential (7.500:1)	..	..	..	1
1	b	372924	Spider	1	..	..	..
1	d	350384	Spider	..	1	1	..
1	c	....	Spider	..	..	..	1
2	b	373128	Gear	2	..	..	..
2	d	350389	Gear	..	2	2	..
2	c	....	Gear	..	..	..	2
3		358098	Nut	12	12	12	12
4		221771	Washer	12	12	12	..
4		88587	Washer	..	..	..	12
5		....	Housing	1	1	1	..
5		162864	Case	..	..	..	1
6		88587	Washer	..	..	..	12
7		280579	Capscrew (3.0 in.)	..	..	..	8
8		280578	Capscrew (2.0 in.)	..	..	..	4
8	d	366701	Capscrew	4	4	4	..
9	bd	372106	Bolt	8	8	8	..
10	bd	221771	Washer	12	12	12	..
11	b	373127	Gear	4	..	..	..
11	d	350388	Gear	..	4	4	..
11	c	....	Gear	..	..	..	4
12		373126	Thrust Washer	4	..	..	..
12	db	350387	Washer	..	4	4	..
12	c	234071	Washer	..	..	..	4
13	db	350383	Washer	2	2	2	..
13	c	234069	Washer	..	..	..	2
14		366701	Capscrew	12	12	12	..
14		277265	Bolt	..	..	..	12
15		352167	Gear/Pinion	1	..	..	..
15		352170	Gear/Pinion	..	1	..	..
15		350391	Gear/Pinion (7.200:1)	..	..	1	..
15		326946	Gear/Pinion (7.500:1)	..	..	..	1
16		....	Pinion	1	1	1	1
17		326947	Nut	..	..	..	1
18		296844	Bearing	..	..	..	1
19		240683	Snap Ring	..	..	..	1
19	a	240683	Snap Ring	1	1	1	..
20	a	296844	Bearing	1	1	1	..
21	a	352317	Nut	1	1	..	..
21		226414	Adhesive	AR	AR	AR	AR
21		238751	Nut	..	..	1	..
22		289710	Thrust Screw	..	..	1	1
23		15034	Nut	..	..	1	1

a Included With Speed Reducer 352761 And 352762 or 1352688 And 1352689

b Included In Differential Kit 352168, Used On Differential 352166

c Included In Spider Kit 321275

d Included In Differential Kit 352191, Used On Differentials 352169 And 332837

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BRAKE SYSTEM

BRAKE (Figure 142)
LAST USED ON S/N G00D-8496 ..... Page 292

BRAKE (Figure 143)
FIRST USED ON S/N G00D-8497 ..... Page 294

BRAKE BOOSTER & MASTER CYLINDER (Figure 144) ..... Page 296

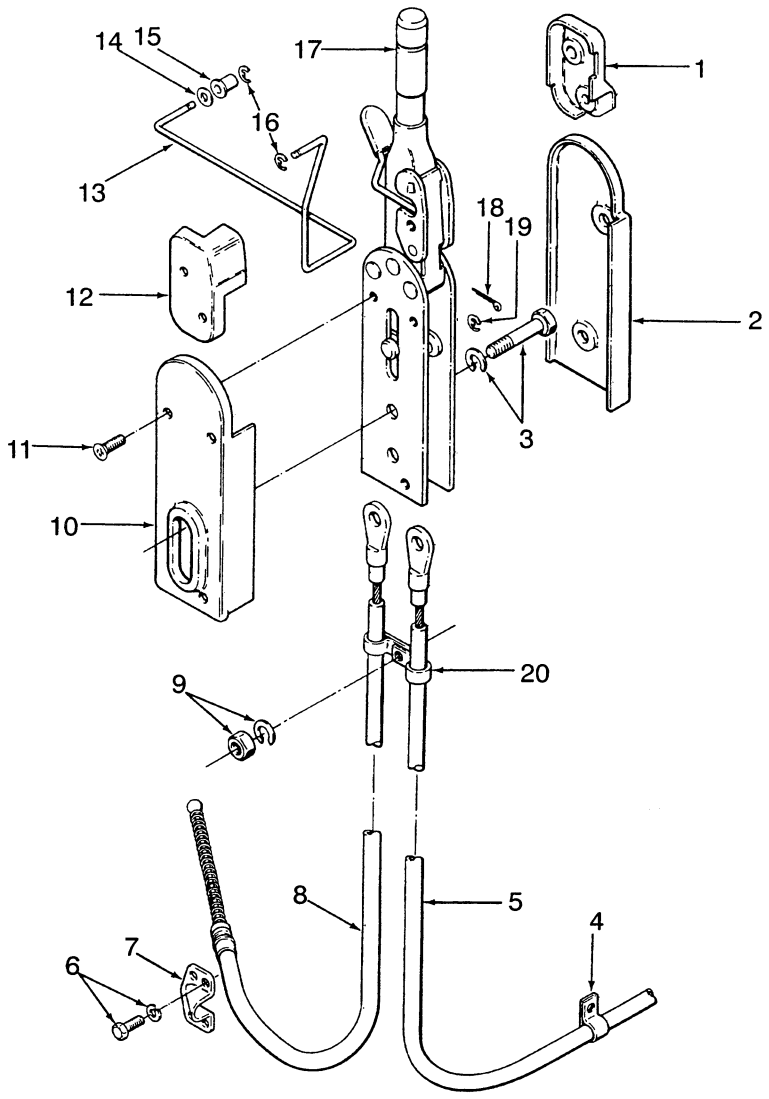
BRAKE LINKAGE (Figure 140)
OIL CLUTCH ..... Page 288

BRAKE LINKAGE (Figure 141)
POWERSHIFT ..... Page 290

PARK BRAKE (Figure 139) ..... Page 286

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PARK BRAKE (FIGURE 139)



REF		PART NO.	NAME OF PART	QTY
1		353011	Cover	1
2		353009	Cover	1
3		292508	Capscrew	2
3		292681	Lockwasher	2
4		136516	Clamp	1
5	b	1350029	Cable (RH)	1
5	c	1460795	Cable (RH)	1
6		124119	Screw	4
6		15154	Lockwasher	4
7		339589	Clamp	2
8	b	1350028	Cable (LH)	1
8	c	1460794	Cable (LH)	1
9		239503	Nut	1
9		292681	Lockwasher	1
10		353010	Cover	1

REF		PART NO.	NAME OF PART	QTY
11		1328688	Screw	7
12		353012	Cover	1
13	a	1347322	Link	1
14	a	15172	Washer	2
15	a	352605	Bearing	1
16	a	352575	Ring	2
17		352931	Brake Lever	1
18		15200	Cotter Pin	1
19		353206	Snap Ring	2
20		353304	Clamp	1

a Powershift With Monotrol Pedal
b Last Used On S/N G00D-14043
c First Used On S/N G00D-14044

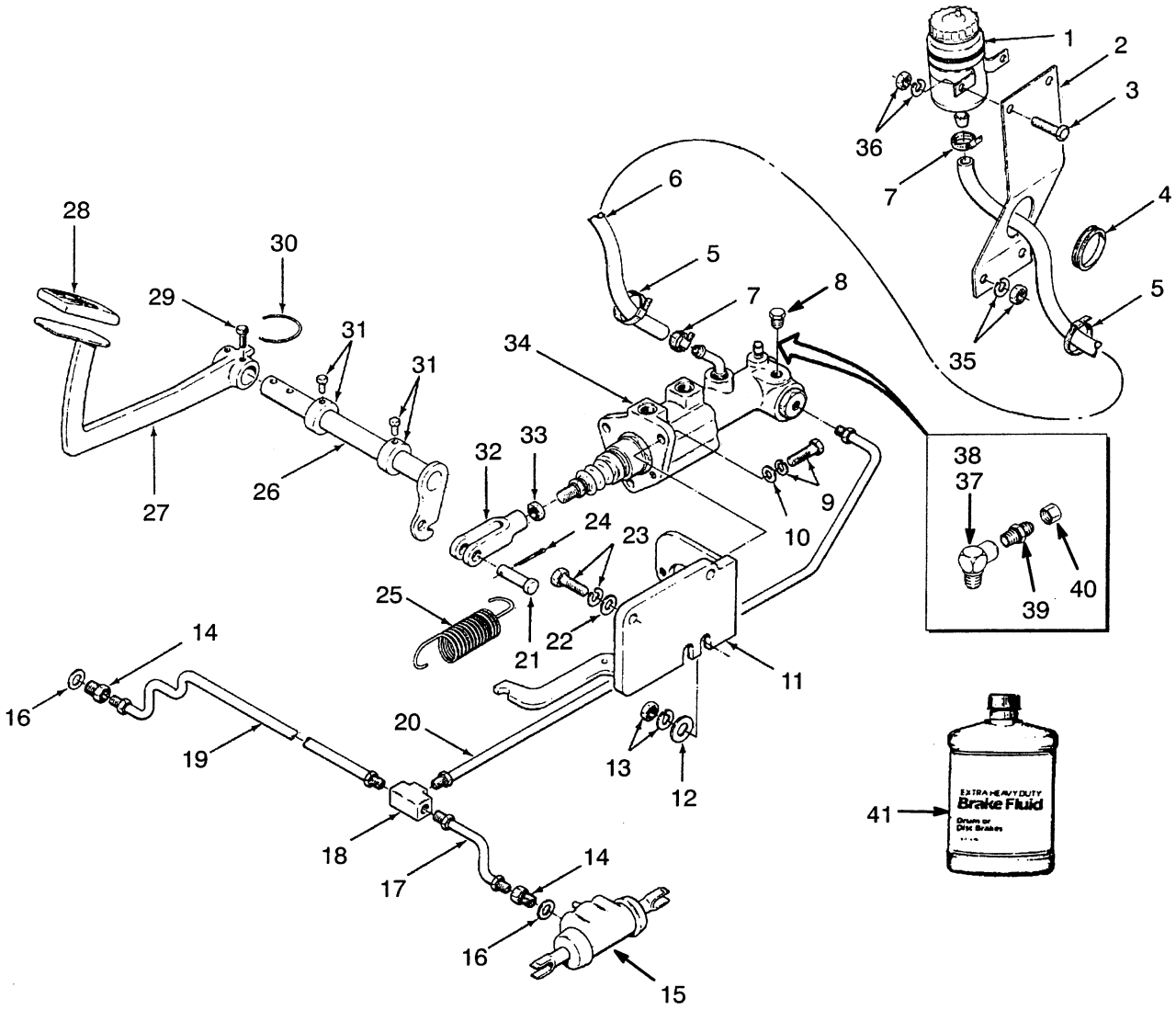
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BRAKE LINKAGE (FIGURE 140)

OIL CLUTCH



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BRAKE LINKAGE

OIL CLUTCH

REF		PART NO.	NAME OF PART	QTY
1		1300155	Reservoir	1
1		317741	Clamp	1
1		1308534	Cap	1
2	a	1300156	Bracket	1
2	b	1454976	Bracket	1
3		287817	Screw	2
4		339711	Grommet	1
5		114312	Strap Clamp	2
6		352747	Hose	1
7		353311	Clamp	2
8		14349	Fitting	1
9		136985	Capscrew	3
9		292682	Lockwasher	3
10		320159	Washer	3
11		352792	Bracket	1
12		352787	Washer	2
13		292681	Lockwasher	2
13		329069	Nut	2
14		352930	Adapter	2
15		....	Wheel Cylinder	2
			☞ Figure 142	
16		29344	Gasket	2
17		352868	Tube	1
18		14955	Fitting	1
19		352869	Tube	1
20		352720	Tube	1
21		150	Pin	1
22		296423	Washer	2
23		292683	Lockwasher	2
23		292529	Capscrew	2
24		15212	Pin	1
25		352504	Spring	1
26		352799	Shaft	1
27		352835	Pedal	1
28		114496	Pad	1
29		27936	Screw	2
30		67355	Locking Wire	1
31		352826	Collar	2
31		16200	Setscrew	1
32		149	Rod End	1
33		15027	Nut	1
34		....	Booster & Master Cylinder Assy.	1
			☞ Figure 144	
35		239503	Nut	2
35		292681	Lockwasher	2
36		292680	Lockwasher	2
36		136687	Nut	2
37		14349	Fitting	2
38		16151	Fitting (Optional)	2
39		16124	Fitting (Optional)	2
40		281700	Nut (Optional)	2
41		357956	Brake Fluid (1 Gal)	AR

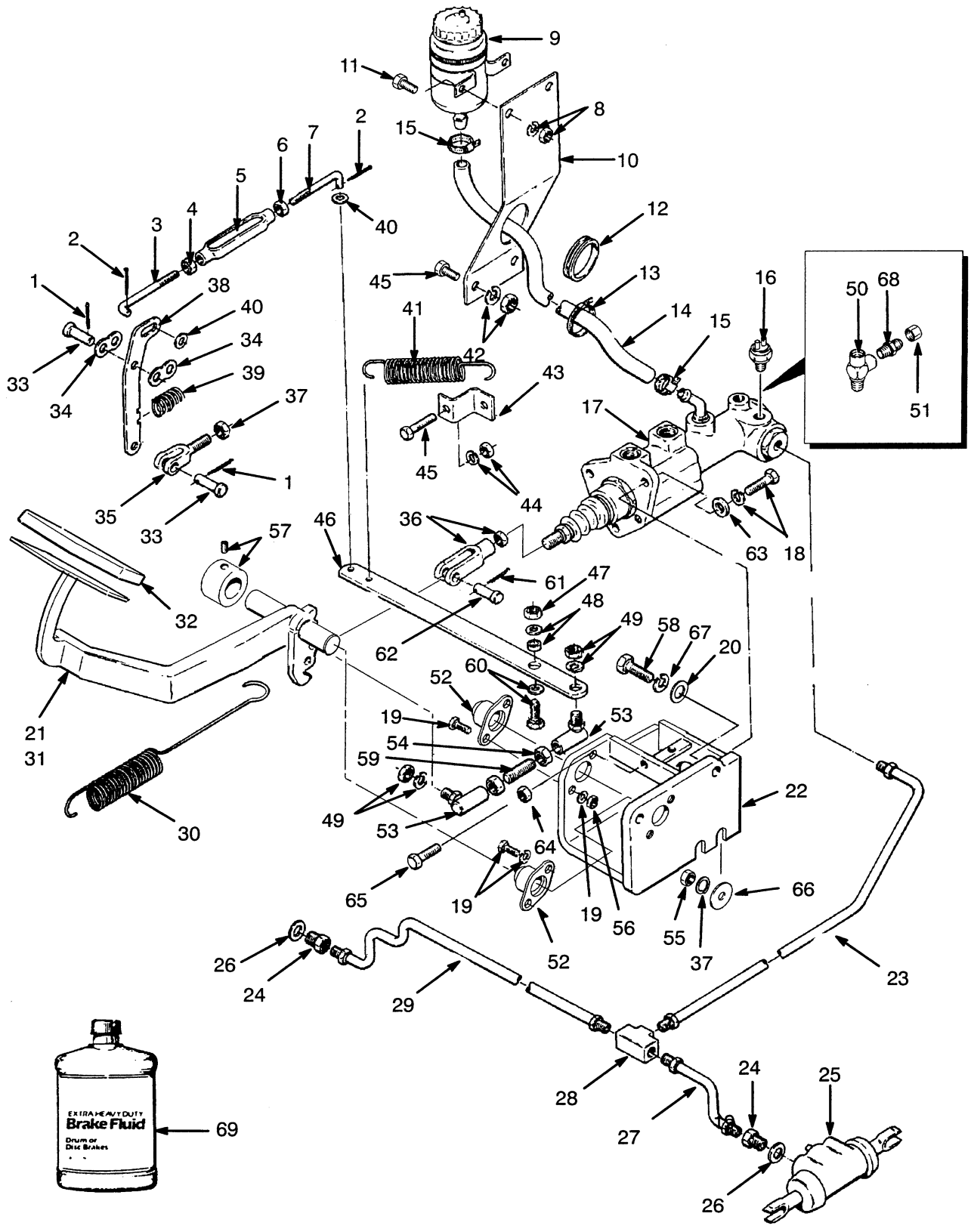
a Last Used On S/N G005D-11495

b First Used On S/N G005D-11496

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BRAKE LINKAGE (FIGURE 141)

POWERSHIFT



BRAKE LINKAGE

POWERSHIFT

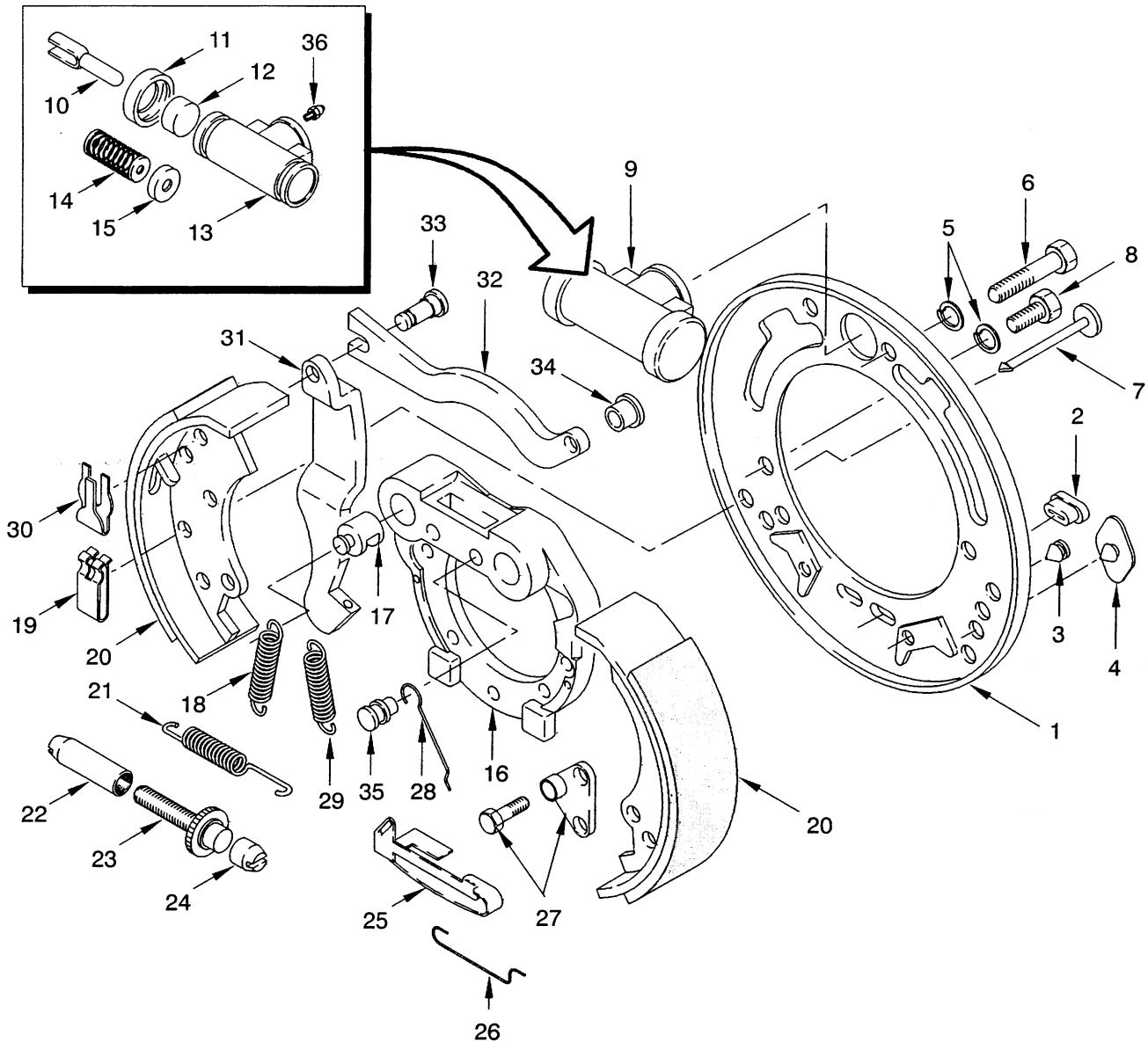
REF		PART NO.	NAME OF PART	QTY
1		15212	Cotter Pin	3
2		221877	Cotter Pin	2
3		353226	Link (LH)	1
4		222119	Nut (Jam)	1
5		353093	Turnbuckle	1
6		15000	Nut	1
7		353225	Link (RH)	1
8		136687	Nut	2
8		292680	Lockwasher	2
9		1300155	Reservoir	1
9		317741	Clamp	1
10		352744	Bracket	1
10	c	1300156	Bracket	1
10	d	1454976	Bracket	1
11		292501	Capscrew	2
12		339711	Grommet	1
13		114312	Strap Clamp	2
14		352747	Hose	1
15		353311	Clamp	2
16	a	14349	Fitting	1
16	b	387867	Switch (Pressure)	1
17		....	Brake Booster	1
			☞ Figure 144	
18		287860	Capscrew	3
18		292682	Lockwasher	3
19		136985	Capscrew	4
19		292682	Lockwasher	4
20		296423	Washer	2
21		1312717	Pedal	1
22		1312706	Bracket	1
23		352720	Tube	1
24		352930	Adapter	2
25		....	Wheel Cylinder	2
			☞ Figure 142	
26		29344	Gasket	2
27		352868	Tube	1
28		14955	Fitting	1
29		352869	Tube	1
30		1312709	Spring	1
31		352839	Pedal	1
32		139051	Pad	2
33		139	Pin	3
34		352572	Plate	2
35		352486	Yoke	1
35		273338	Thread Sealant	AR
36		149	Rod End	1
36		15027	Nut	1
37		329069	Nut	1
38		352492	Plate	1
39		352884	Spring	1
40		15127	Washer	2
41		353222	Spring	1
42		292681	Lockwasher	2
42		239503	Nut	2
43		352493	Bracket	1
44		136692	Nut	1
44		292682	Lockwasher	1
45		292518	Capscrew	1
46		1314242	Plate	1
47		316826	Nut	1
48		221767	Washer	2
48		353224	Bushing	1
49		15026	Nut	2
49		15156	Lockwasher	2
50		16125	Fitting (Optional)	1
51		281700	Fitting (Optional)	1
52		1303114	Bearing	2
53		119758	Ball Joint	2
54		15026	Nut	2
55		329069	Nut	2
56		136692	Nut	5
57		352826	Collar	1
57		16200	Screw	1
58		292529	Capscrew	2
59		340215	Link	1
60		136985	Capscrew	1
60		221767	Washer	1
61		15212	Pin	1
62		150	Pin	1
63		320159	Washer	3
64		296130	Nut	1
65		246001	Capscrew	1
66		352787	Washer	2
67		292683	Washer	2
68		16124	Fitting (Optional)	1
69		26758	Brake Fluid (12 oz)	AR
69		357973	Brake Fluid (1 qt)	AR
69		357956	Brake Fluid (1 gal)	AR

a Forward/Reverse Lever
b Monotrol Pedal
c Last Used On S/N G005D-11495
d First Used On S/N G005D-11496

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BRAKE (FIGURE 142)

LAST USED ON S/N G00D-8496



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BRAKE

LAST USED ON S/N G00D-8496

KEY:
A: Right Hand
B: Left Hand

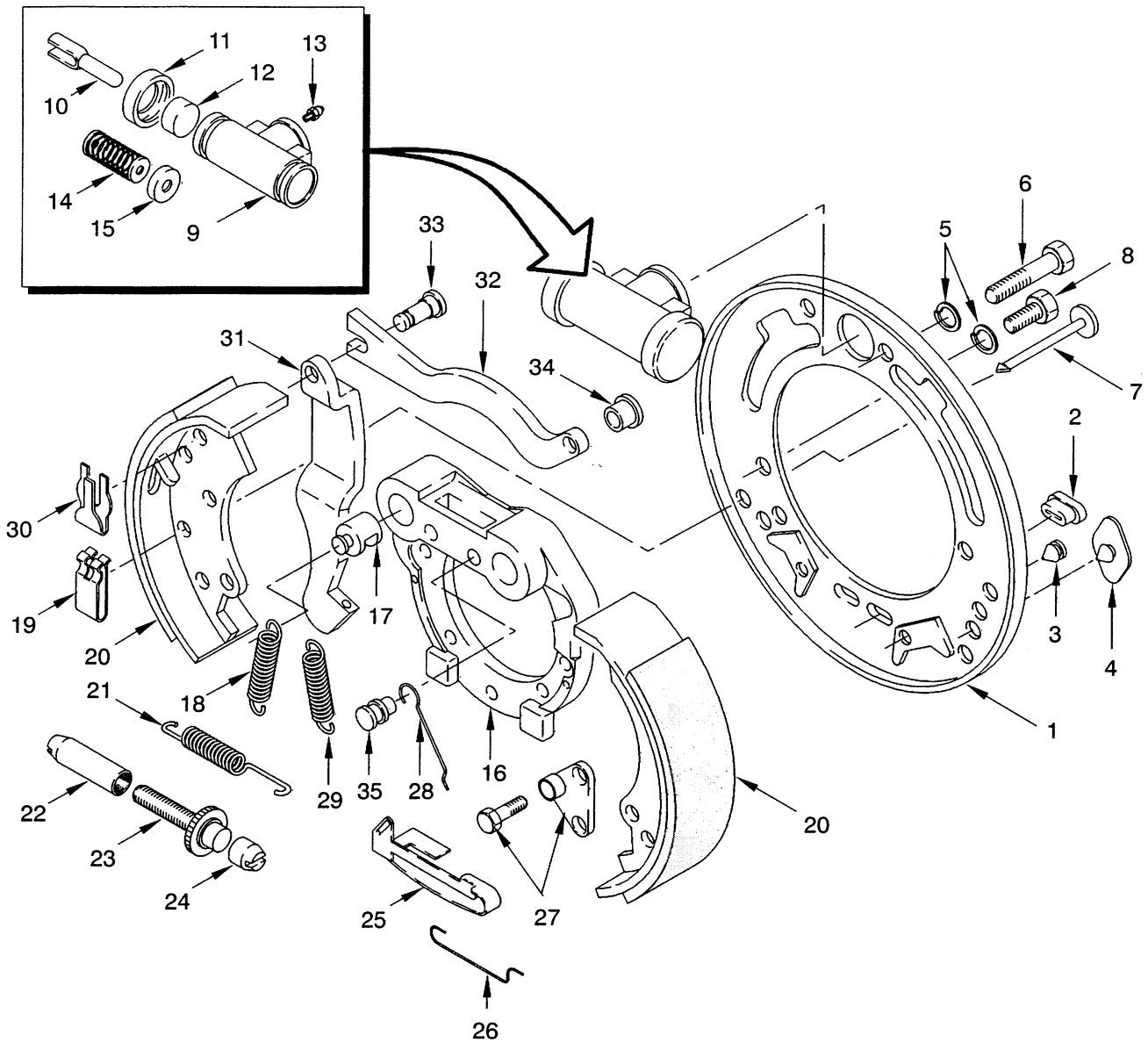
REF		PART NO.	NAME OF PART	QTY A	QTY B
		1336321	Brake	1	..
		1336322	Brake	..	1
1		351828	Kit-Plate	1	1
2	a	200084	Plug	2	2
3		358092	Plug	2	2
4		358093	Plug	2	2
5		15155	Lockwasher	4	4
6		221453	Capscrew	2	2
7	b	....	Rod	3	3
8		221451	Capscrew	2	2
9	a	200141	Wheel Cylinder	1	1
10		....	Push Rod	2	2
11	c	....	Cover	2	2
12		....	Piston	2	2
13		....	Wheel Cylinder	1	1
14		....	Spring	1	1
15	c	....	Cup	2	2
16		1300287	Spider	1	..
16		1300286	Spider	..	1
17		200157	Anchor Pin	2	2
18	d	....	Spring	2	2
19	b	....	Clip	3	3
20	a	1383782	Shoe & Lining	2	2
21	a	162138	Spring	1	1
22	e	....	Nut	1	..
22	f	....	Nut	..	1
23	e	....	Bolt	1	..
23	f	....	Bolt	..	1
24	e	....	Sleeve	1	..
24	f	....	Sleeve	..	1
25	a	162145	Lever	..	1
25	a	162144	Lever	1	..
26	a	162146	Link (Actuator)	1	1
27		162984	Screw/Link	1	..
27		162983	Screw/Link	..	1
28	a	162147	Link (Anchor)	1	1
29	d	....	Spring	2	2
30		200147	Clip	2	2
31		200149	Lever	1	..
31		200148	Lever	..	1
32		200146	Link	1	..
32		200145	Link	..	1
33		1303788	Pin	2	2
34		1303789	Pin	1	1
35		249297	Pin	1	1
36		28340	Bleeder Screw	1	1

a Included In Brake Overhaul Kit 996026
b Included In Retainer Kit 321779
c Included In Repair Kit 200160
d Included In Retainer Kit 321780
e Included In Star Wheel Kit 162139
f Included In Star Wheel Kit 162140

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BRAKE (FIGURE 143)

FIRST USED ON S/N G00D-8497



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BRAKE

FIRST USED ON S/N G00D-8497

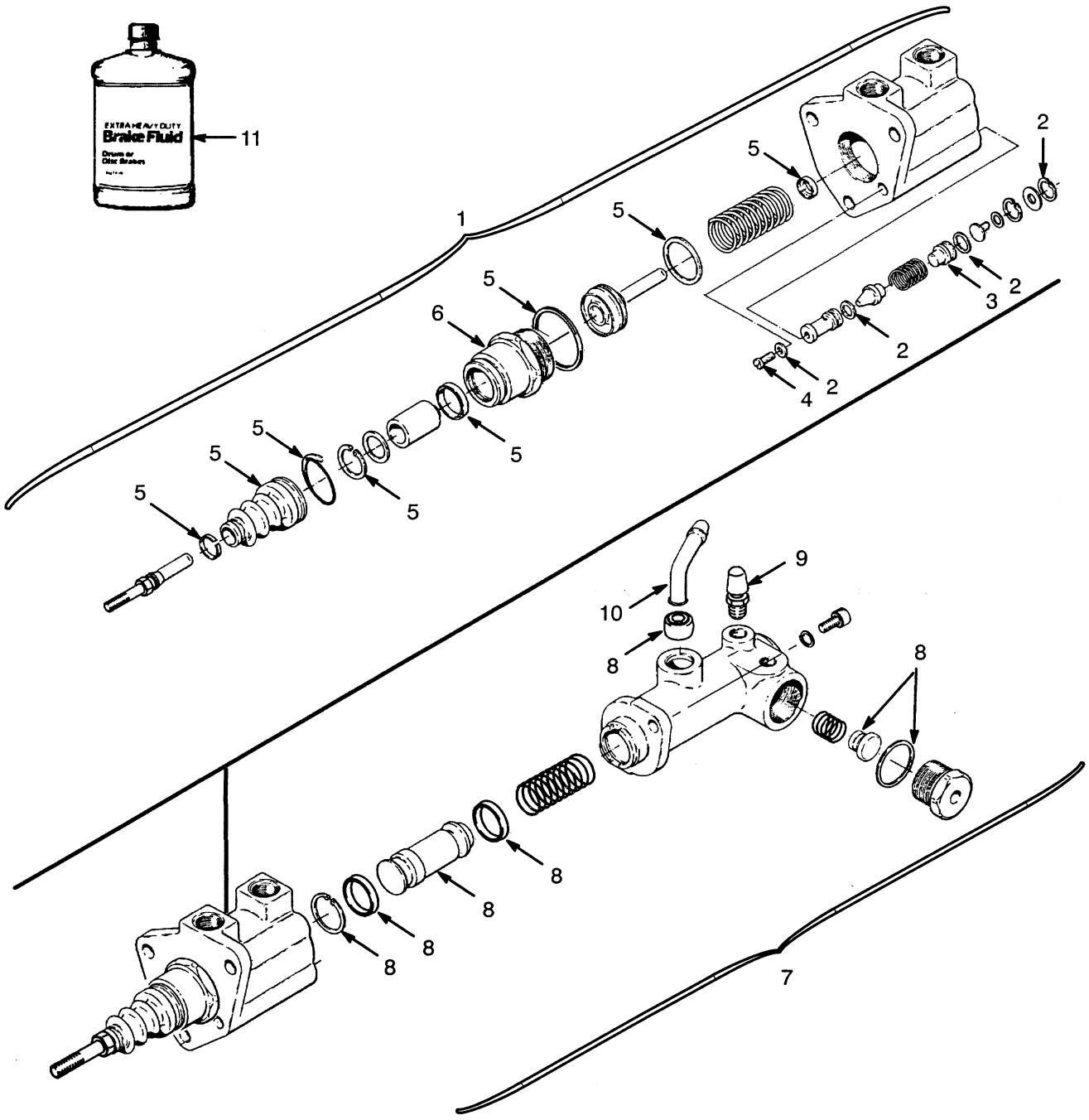
KEY:
A: Right Hand
B: Left Hand

REF		PART NO.	NAME OF PART	QTY A	QTY B
		1383780	Brake	1	..
		1383781	Brake	..	1
1	f	1337621	Backing Plate Assy	1	1
2	af	200084	Plug	2	2
3	f	358092	Plug	2	2
4	f	358093	Plug	2	2
5	f	15155	Lockwasher	4	4
6	f	221455	Capscrew	2	2
7	b	....	Rod	3	3
8	f	221451	Capscrew	2	2
9	fae	1337622	Wheel Cylinder	1	1
10	e	....	Push Rod	2	2
11	ce	....	Cover	2	2
12	e	....	Piston	2	2
13	e	28340	Bleeder Screw	1	1
14	e	....	Spring	1	1
15	ce	....	Cup	2	2
16	f	1337620	Spider	1	1
17		200157	Anchor Pin	2	2
18	d	....	Spring	2	2
19	b	....	Clip	3	3
20	a	1383782	Shoe & Lining	2	2
21	a	162138	Spring	1	1
22		1338485	Nut	1	..
22		1338489	Nut	..	1
23		1338484	Bolt	1	..
23		1338490	Bolt	..	1
24		1338486	Sleeve	1	..
25	a	162145	Lever	1	..
25	a	162144	Lever	..	1
26	a	162146	Link (Actuator)	1	1
27		162983	Screw/Link	1	..
27		162983	Screw/Link	..	1
28	a	162147	Link (Anchor)	1	1
29	d	....	Spring	2	2
30		200147	Clip	2	2
31		200149	Lever	1	..
31		200148	Lever	..	1
32		200146	Link	1	..
32		200145	Link	..	1
33		1303788	Pin	2	2
34		1303789	Pin	1	1
35		249297	Pin	1	1

a Included In Brake Overhaul Kit 996026
b Included In Retainer Kit 321779
c Included In Repair Kit 200160 A
d Included In Retainer Kit 321780
e Included In Cylinder Kit 200141
f Included In Spider Assy 1453038

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BRAKE BOOSTER & MASTER CYLINDER (FIGURE 144)



BRAKE BOOSTER & MASTER CYLINDER

REF	PART NO.	NAME OF PART	QTY
	1357470	Booster & Master Cylinder Assy	1
1	1300279	Booster Assembly	1
2	375653	Kit-Booster Repair	1
3	....	Piston	1
4	....	Screw	1
5	1308542	Kit-Booster Repair	1
6	....	Crown Piece	1
7	1358206	Master Cylinder Assembly	1
8	1369004	Kit-Master Cylinder Repair	1
9	385669	Bleeder Screw	1
10	3049156	Fitting	1
11	26758	Brake Fluid (12 oz)	AR
11	357973	Brake Fluid (1 qt)	AR
11	357956	Brake Fluid (1 gal)	AR

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NOTE

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STEERING SYSTEM

HAND PUMP (Figure 147) ..... Page 305

STEERING AXLE (Figure 148) ..... Page 306

STEERING COLUMN (Figure 146) ..... Page 302

STEERING CYLINDER (Figure 149) ..... Page 308

STEERING (Figure 145)
HYDRAULIC LINES ..... Page 301

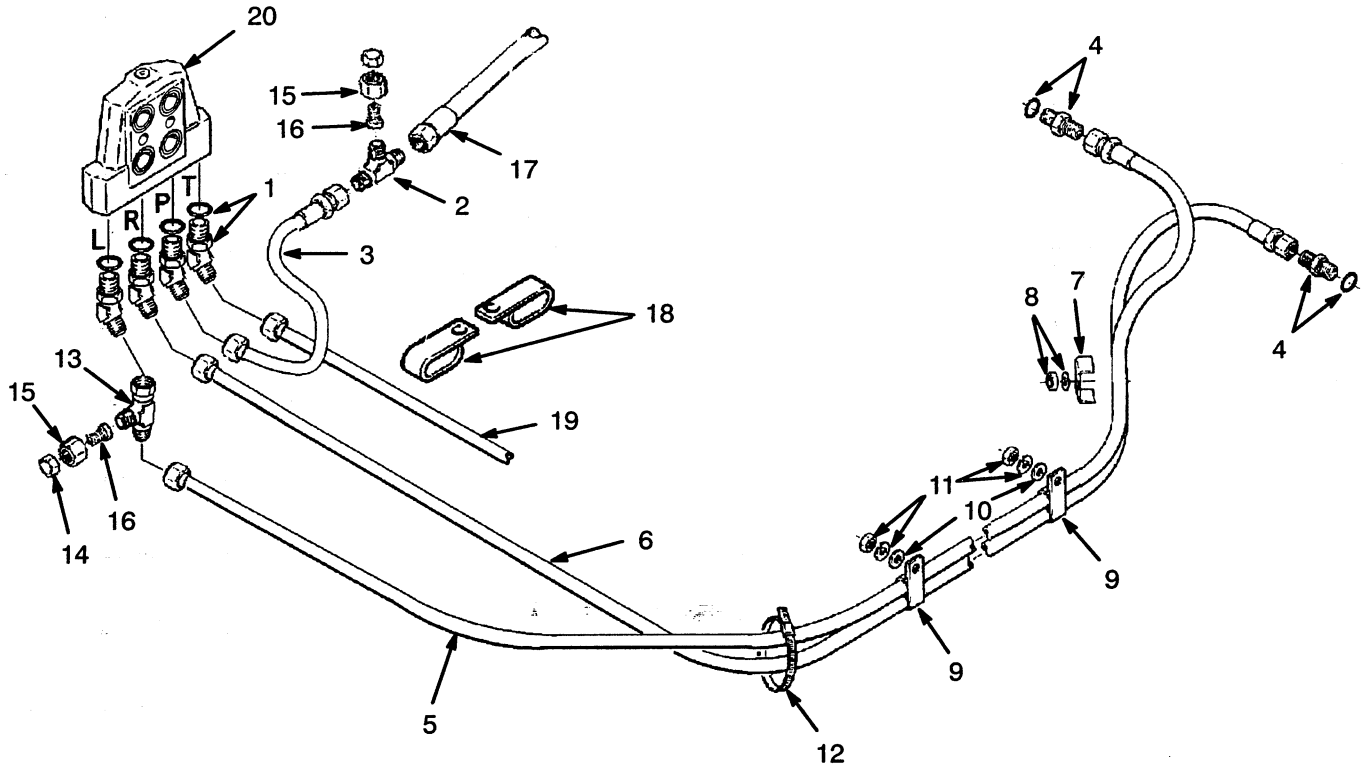
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STEERING (FIGURE 145)

HYDRAULIC LINES



REF		PART NO.	NAME OF PART	QTY
1		....	Fitting	4
			☞ Figure 146	
2		14560	Fitting	1
3		69238	Hose	1
4		16540	Fitting	2
4		16483	O-Ring	1
5	a	1312490	Hose	1
5	b	1312491	Hose	1
6	b	1312490	Hose	1
6	a	1322646	Hose	1
7		353497	Clamp	1
8		239503	Nut	1
8		292681	Lockwasher	1
9		140660	Clamp	2
10		320157	Washer	2

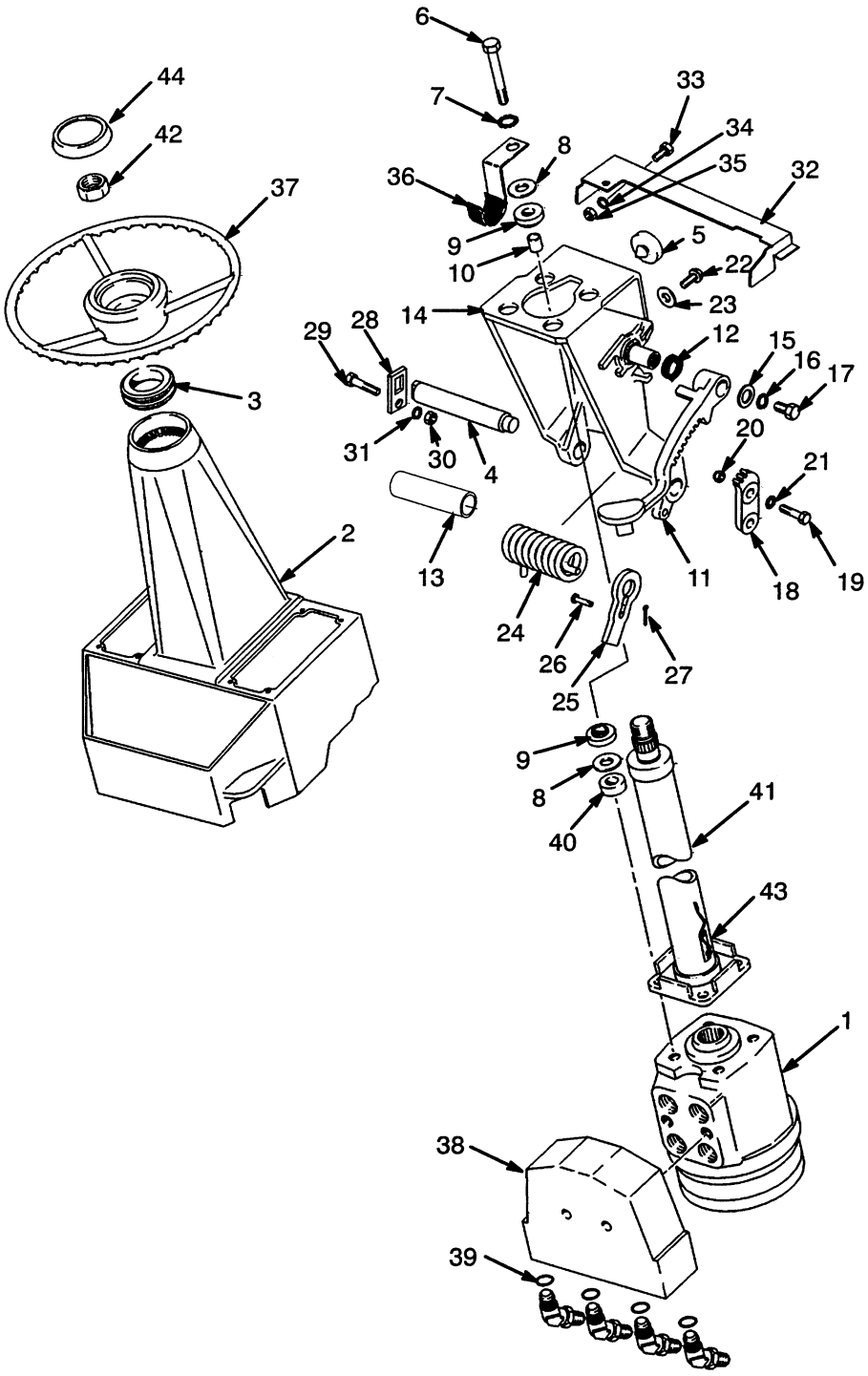
REF	PART NO.	NAME OF PART	QTY
11	292681	Lockwasher	2
11	239503	Nut	2
12	129563	Clamp	1
13	16577	Fitting	1
14	16923	Fitting	2
15	14489	Fitting	2
16	17776	Fitting	2
17	1318479	Hose	1
18	129684	Clamp	2
19	1322645	Hose	1
20	....	Valve Block	1
		☞ Figure 146	

a H90-110XL

b H70-80XL & H90XLS

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STEERING COLUMN (FIGURE 146)



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STEERING COLUMN

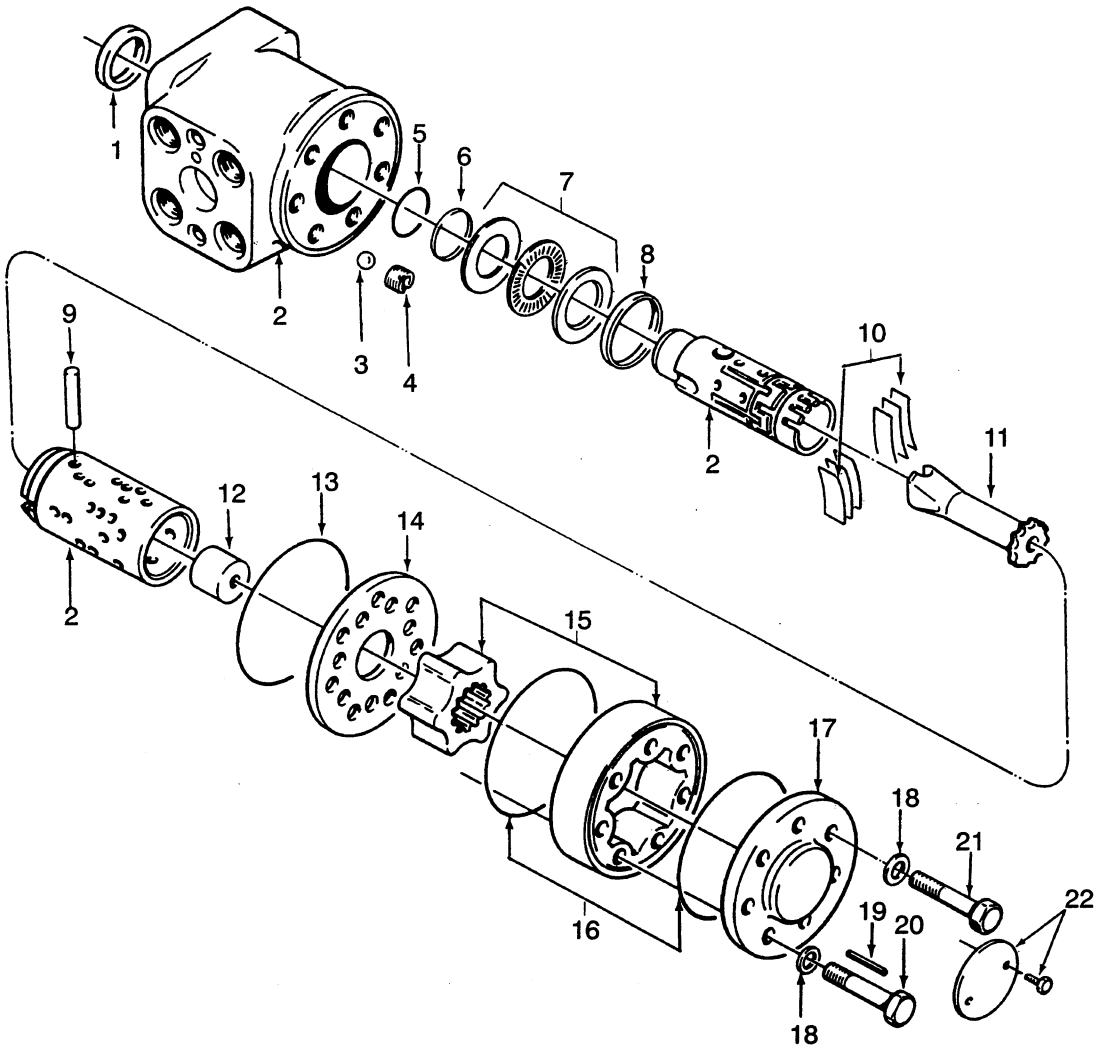
REF	PART NO.	NAME OF PART	QTY
1	....	Hand Pump	1
		☞ Figure 147	
2	1336570	Steering Pod	1
3	1336465	Grommet	1
4	1336479	Shaft	1
5	1344148	Bumper	1
6	16376	Capscrew	4
7	15920	Washer	4
8	1334790	Washer	8
9	1336468	Isolator	8
10	1336503	Spacer	4
11	1336480	Latch	1
12	1336483	Spring	1
13	1350404	Bushing	1
14	1344055	Bracket	1
15	296442	Washer	1
16	292683	Lockwasher	1
17	132860	Capscrew	1
18	1336474	Latch Plate	1
19	287860	Capscrew	2
20	316826	Nut	2
21	296421	Washer	2
22	1346863	Capscrew	2
23	1346862	Washer	2
24	1346861	Spring	1
25	1336476	Tensioner	1
26	930775	Rod-End Pin	1
27	15203	Pin	1
28	1336472	Plate	1
29	136749	Capscrew	1
30	239503	Nut	1
31	293780	Washer	1
32	1336481	Cover	1
33	292500	Capscrew	2
34	292680	Washer	2
35	136687	Nut	2
36	1344054	Clamp	1
37	352955	Steering Wheel	1
38	352431	Valve Block Assembly	1
39	17196	Fitting	4
39	16484	O-Ring	4
40	1300165	Spacer	4
41	1312733	Steering Column	1
42	345423	Nut	1
43	362816	Kit-Contact	1
44	371666	Horn Button	1

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NOTE

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HAND PUMP (FIGURE 147)



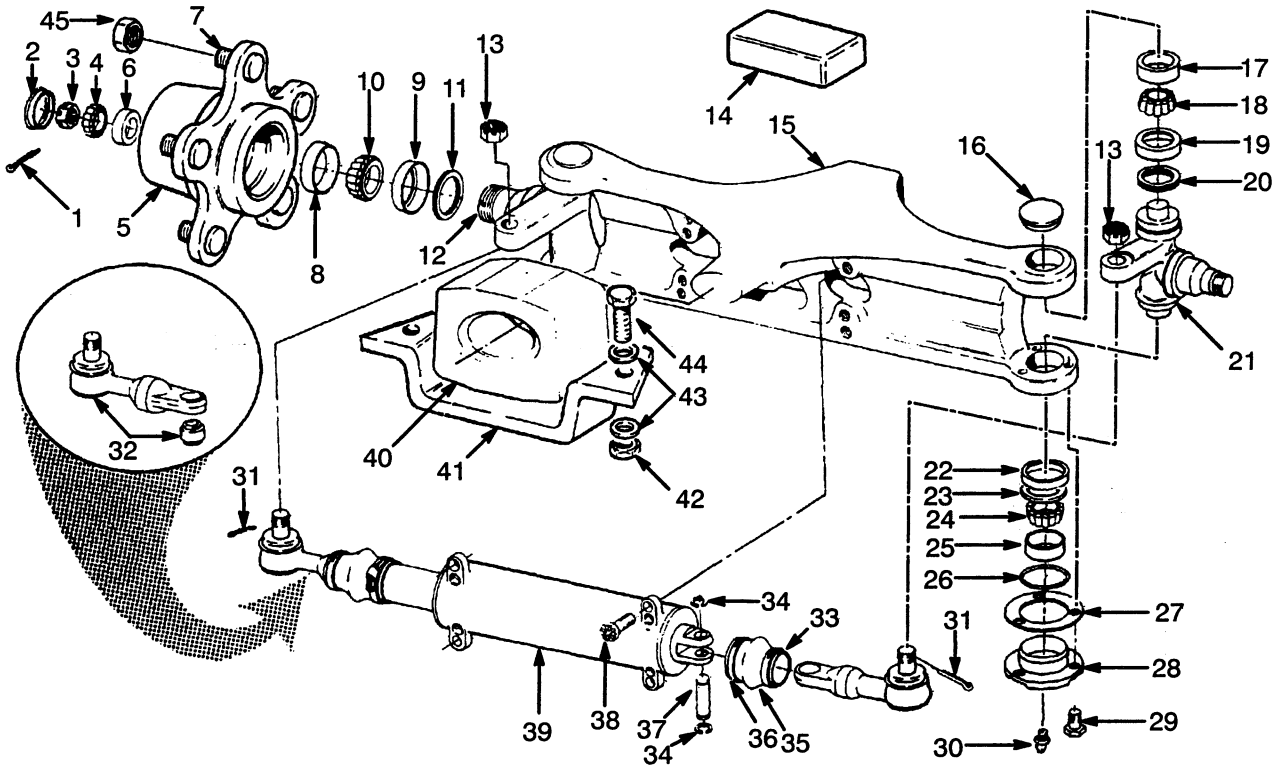
REF		PART NO.	NAME OF PART	QTY
		357288	Hand Pump	1
1	a	....	Seal Ring	1
2		....	Housing	1
2		....	Spool/Sleeve	1
3		345408	Ball	1
4		345409	Bushing	1
5	a	....	O-Ring	1
6	a	....	Ring	1
7		345410	Set-Bearing	1
8		345411	Ring	1
9		345412	Cross Pin	1
10		345413	Set-Spring	1
11		345414	Shaft	1
12		366067	Spacer	1

REF		PART NO.	NAME OF PART	QTY
13	a	....	O-Ring	1
14		345416	Plate	1
15		366068	Set-Gear	1
16	a	....	O-Ring	2
17		345424	Cover	1
18	a	....	Washer	7
19		345418	Pin	1
20		366069	Screw	1
21		371344	Screw	6
22		....	Plate	1
22		....	Screw	2

a Included In Seal Kit 345421

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STEERING AXLE (FIGURE 148)



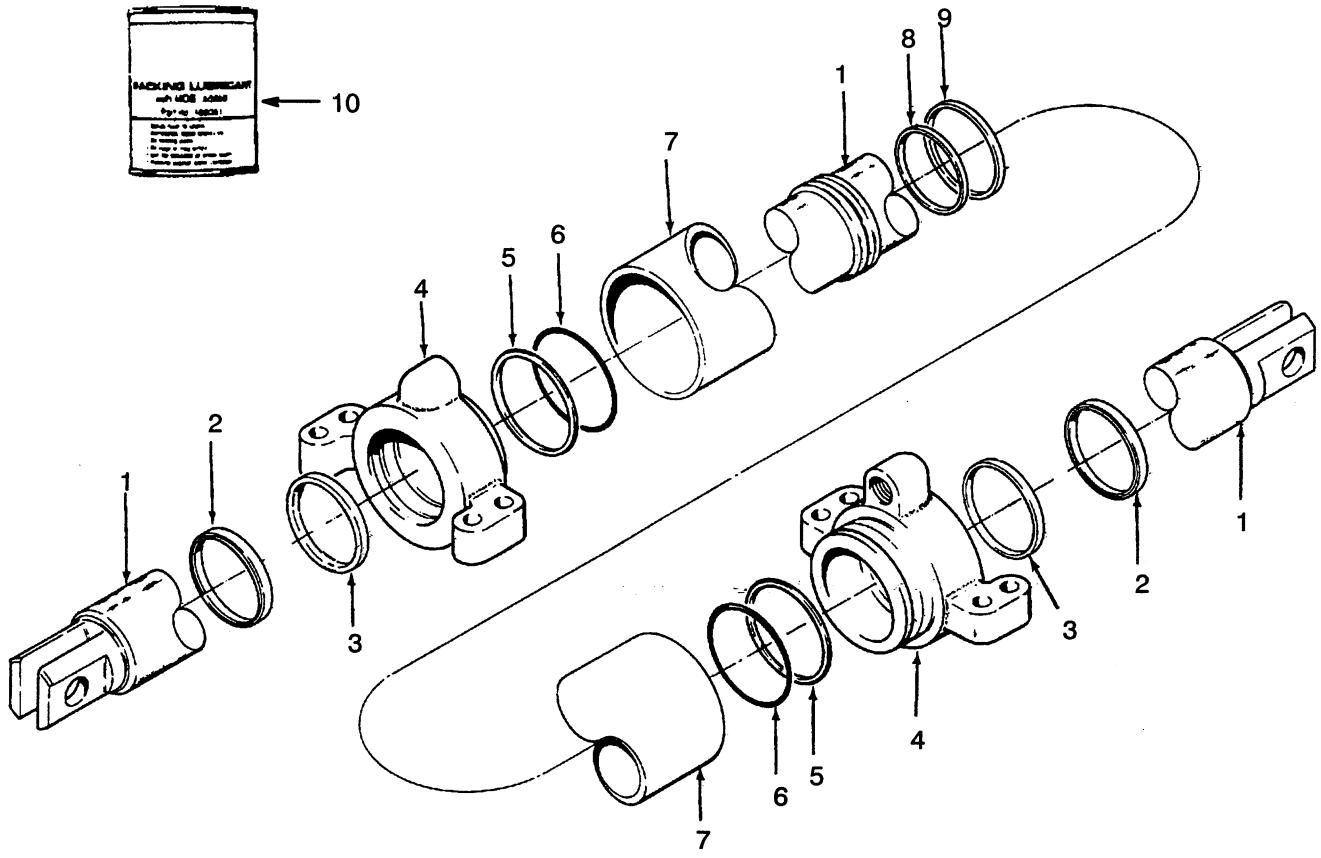
STEERING AXLE

REF		PART NO.	NAME OF PART	QTY
1	a	15227	Cotter Pin	2
2		69029	Hub Cap	2
3		1383777	Nut	2
4	a	30289	Bearing Cone	2
5		238228	Hub	2
6	a	30019	Bearing Cup	1
7		25723	Stud	5
8	a	30147	Bearing Cup	1
9	a	164639	Wear Sleeve	1
10	a	230315	Bearing Cone	2
11	a	44542	Oil Seal	2
12		286162	Spindle (LH)	1
13		21189	Nut	2
14	b	352205	Mount	1
15		352172	Steer Axle	1
16		185860	Plug	2
16		288394	Sealant	AR
17	a	230421	Bearing Cup	2
18	a	153715	Bearing Cone	2
19	a	153717	Wear Sleeve	2
20	a	153716	Seal	2
21		286161	Spindle (RH)	1
22	a	266733	Seal	2
23	a	266728	Seal	2
24	a	135657	Bearing Cone	2
25	a	135658	Bearing Cup	2
26	a	39678	O-Ring	2
27	a	185856	Shim (.005 in)	AR
27	a	185857	Shim (.007 in)	AR
27	a	185858	Shim (.020 in)	AR
28		266735	Bearing Cap	2
29		293628	Capscrew	6
30		13957	Grease Fitting	2
31		15225	Cotter Pin	2
32		185870	Tie Rod	2
32	a	185872	Bushing	1
33		127045	Clamp	2
34	a	58903	Snap Ring	4
35		185869	Cover	2
36		119236	Clamp	2
37	a	326498	Pin	2
38		293686	Capscrew	8
39		....	Steering Cylinder ☞ Figure 149	1
40		1343831	Mount	2
41		324858	Plate	2
42		300937	Nut	4
43		320161	Washer	8
44		293648	Capscrew	4
45		11276	Nut	10
45		15224	Pin	10

a Included In Steer Axle Kit 996024
b H90XLS & H90-110XL

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STEERING CYLINDER (FIGURE 149)



REF		PART NO.	NAME OF PART	QTY
		352198	Steering Cylinder	1
1		352200	Piston Rod	1
2	a	203071	Wiper	2
3	a	210183	Seal (Rod)	2
4		352203	Cap	2
5	a	270015	Back-Up Ring	2
6	a	79981	O-Ring	2
7		352199	Shell	1
8	a	304056	Ring	1
9	a	1380885	Piston Ring	1
10		186061	Packing Lubricant	AR

a Included In Seal Kit 1302759

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HYDRAULIC SYSTEM

CHARGE PUMP (Figure 153)
OIL CLUTCH ..... Page 316

CHARGE PUMP HYDRAULICS (Figure 152)
OIL CLUTCH ..... Page 314

CONTROL VALVE ATTACHING PARTS (Figure 156)
TWO FUNCTION ..... Page 322

CONTROL VALVE ATTACHING PARTS (Figure 158)
THREE FUNCTION ..... Page 326

CONTROL VALVE ATTACHING PARTS (Figure 160)
FOUR FUNCTION ..... Page 330

CONTROL VALVE (Figure 157)
TWO FUNCTION ..... Page 324

CONTROL VALVE (Figure 159)
THREE FUNCTION ..... Page 328

CONTROL VALVE (Figure 161)
FOUR FUNCTION ..... Page 332

HYDRAULIC PUMP (Figure 154) ..... Page 319

HYDRAULIC SYSTEM (Figure 150)
TANK CONNECTIONS & LINES ..... Page 310

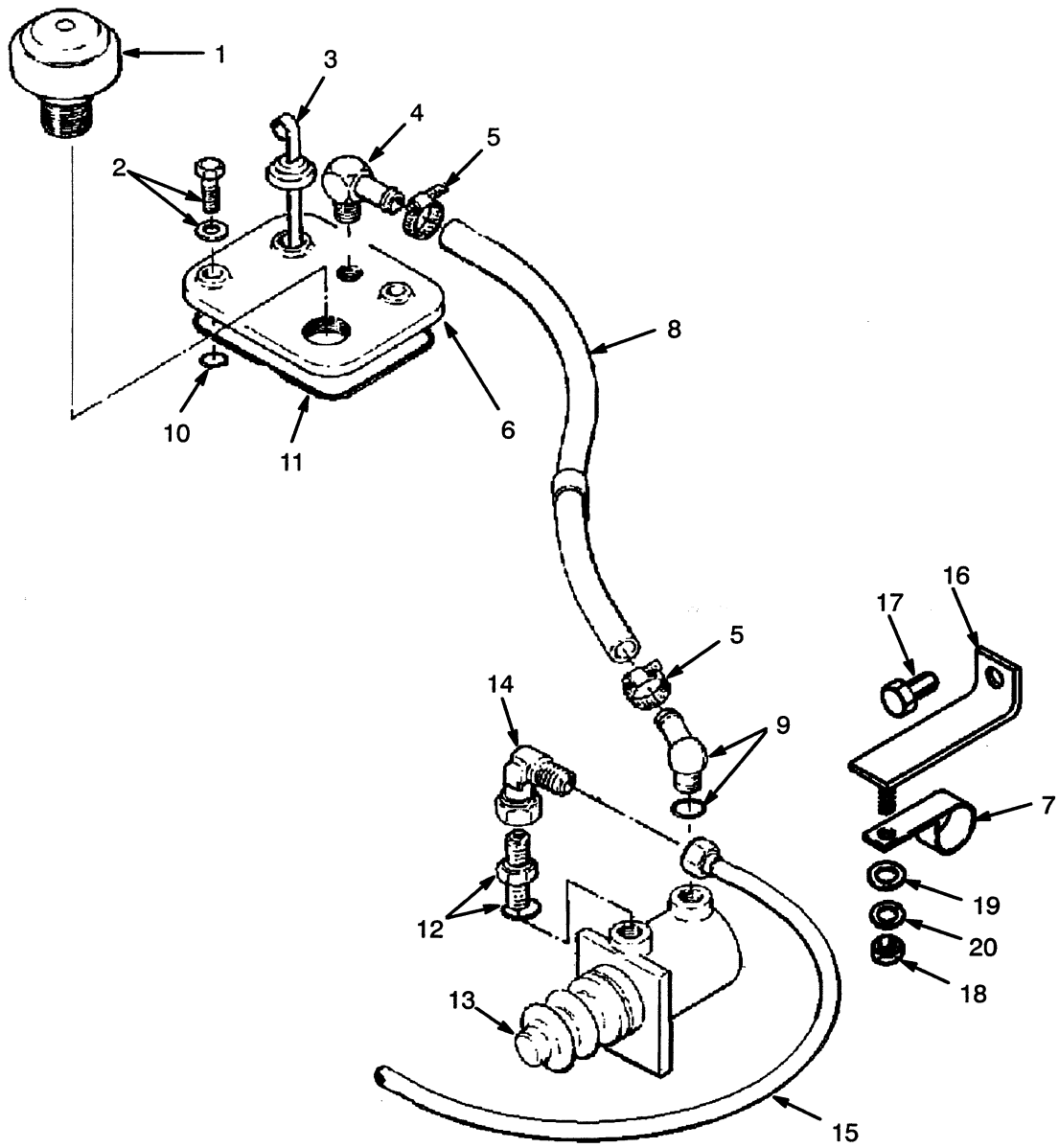
HYDRAULIC SYSTEM (Figure 151) ..... Page 312

TILT CYLINDER (Figure 155) ..... Page 320

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HYDRAULIC SYSTEM (FIGURE 150)

TANK CONNECTIONS & LINES



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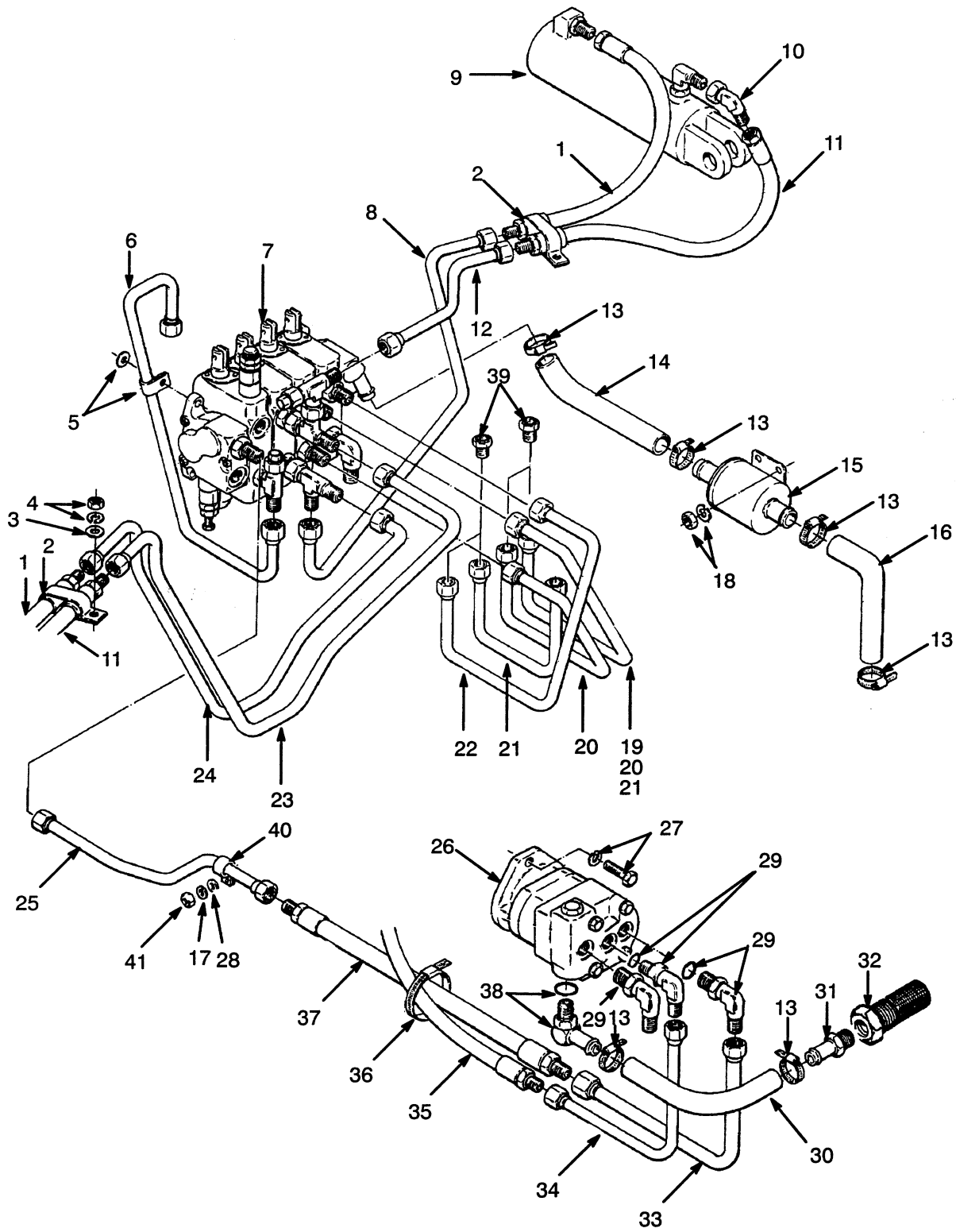
HYDRAULIC SYSTEM

TANK CONNECTIONS & LINES

REF	PART NO.	NAME OF PART	QTY
1	353302	Breather	1
2	329067	Screw	2
2	320157	Washer	2
3	352534	Dipstick	1
4	102898	Fitting	1
5	166857	Clamp	2
6	305587	Cover (Tank)	1
7	325897	Clamp	1
8	120857	Hose	1
9	222510	Fitting	1
9	16484	O-Ring	1
10	353000	O-Ring	2
11	353106	Seal	1
12	16541	Fitting	1
12	16484	O-Ring	1
13	....	Brake Booster	1
		☞ Figure 144	
14	16883	Fitting	1
15	1322645	Hose	1
16	1337841	Bracket	1
17	292515	Capscrew	1
18	136692	Nut	1
19	320159	Washer	1
20	292682	Lockwasher	1

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HYDRAULIC SYSTEM (FIGURE 151)



HYDRAULIC SYSTEM

KEY:
A: Two Function
B: Three Function
C: Four Function

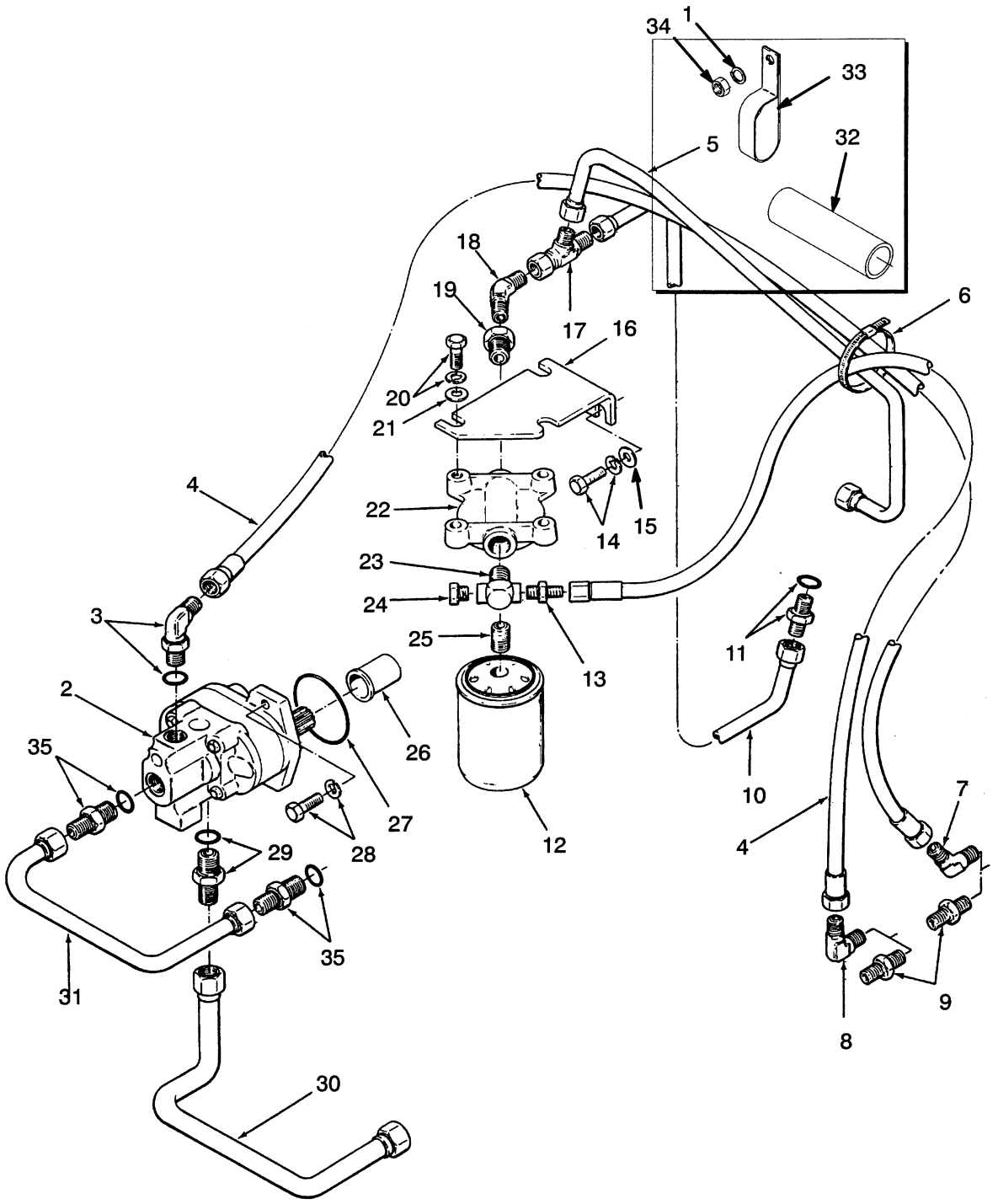
REF		PART NO.	NAME OF PART	A	B	C
1		352725	Hose	2	2	2
2		251994	Clamp	2	2	2
3		320157	Washer	8	8	8
4		239503	Nut	8	8	8
4		292681	Lockwasher	8	8	8
5		298132	Clamp	1	1	1
5		320159	Washer	1	1	1
6		352715	Tube	1	1	1
7		....	Control Valve	1	..	..
			☞ Figure 157			
7		....	Control Valve	..	1	..
			☞ Figure 159			
7		....	Control Valve	..	..	1
			☞ Figure 161			
8		352879	Tube	1	1	1
9		....	Tilt Cylinder	2	2	2
			☞ Figure 155			
10		16999	Fitting	2	2	2
11		352724	Hose	2	2	2
12		352880	Tube	1	1	1
13		127045	Clamp	6	6	6
14		119433	Hose	1	1	1
15	a	1327917	Hydraulic Oil Filter	1	1	1
15	b	1360557	Hydraulic Oil Filter	1	..	..
16		352696	Hose	1	1	1
17		292681	Lockwasher	1	1	1
18		239503	Nut	2	2	2
18		292681	Lockwasher	2	2	2
19		1391314	Tube	..	1	1
20		1391313	Tube	..	1	1
21		352718	Tube	..	..	1
22		353447	Tube	..	..	1
23		352878	Tube	1	1	1
24		352877	Tube	1	1	1
25		352700	Tube	1	1	1
26		....	Hydraulic Pump	1	1	1
			☞ Figure 154			
26		313022	Sealant	AR	AR	AR
27		15158	Lockwasher	2	2	2
27		18588	Capscrew	2	2	2
28		320157	Washer	1	1	1
29		16561	Fitting	2	2	2
29		16486	O-Ring	1	1	1
30		352925	Hose	1	1	1
31		17241	Fitting	1	1	1
32		352563	Screen	1	1	1
33		352924	Tube	1	1	1
34		352923	Tube	1	1	1
35		1318479	Hose	1	1	1
36		129563	Clamp	1	1	1
37		352934	Hose	1	1	1
38		213619	Fitting	1	1	1
38		16983	O-Ring	1	1	1
39		16935	Fitting	..	2	2
40		298132	Clamp	1	1	1
41		239503	Nut	1	1	1

a Last Used S/N G005D-2076
b First Used S/N G005D-2077

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CHARGE PUMP HYDRAULICS (FIGURE 152)

OIL CLUTCH



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CHARGE PUMP HYDRAULICS

OIL CLUTCH

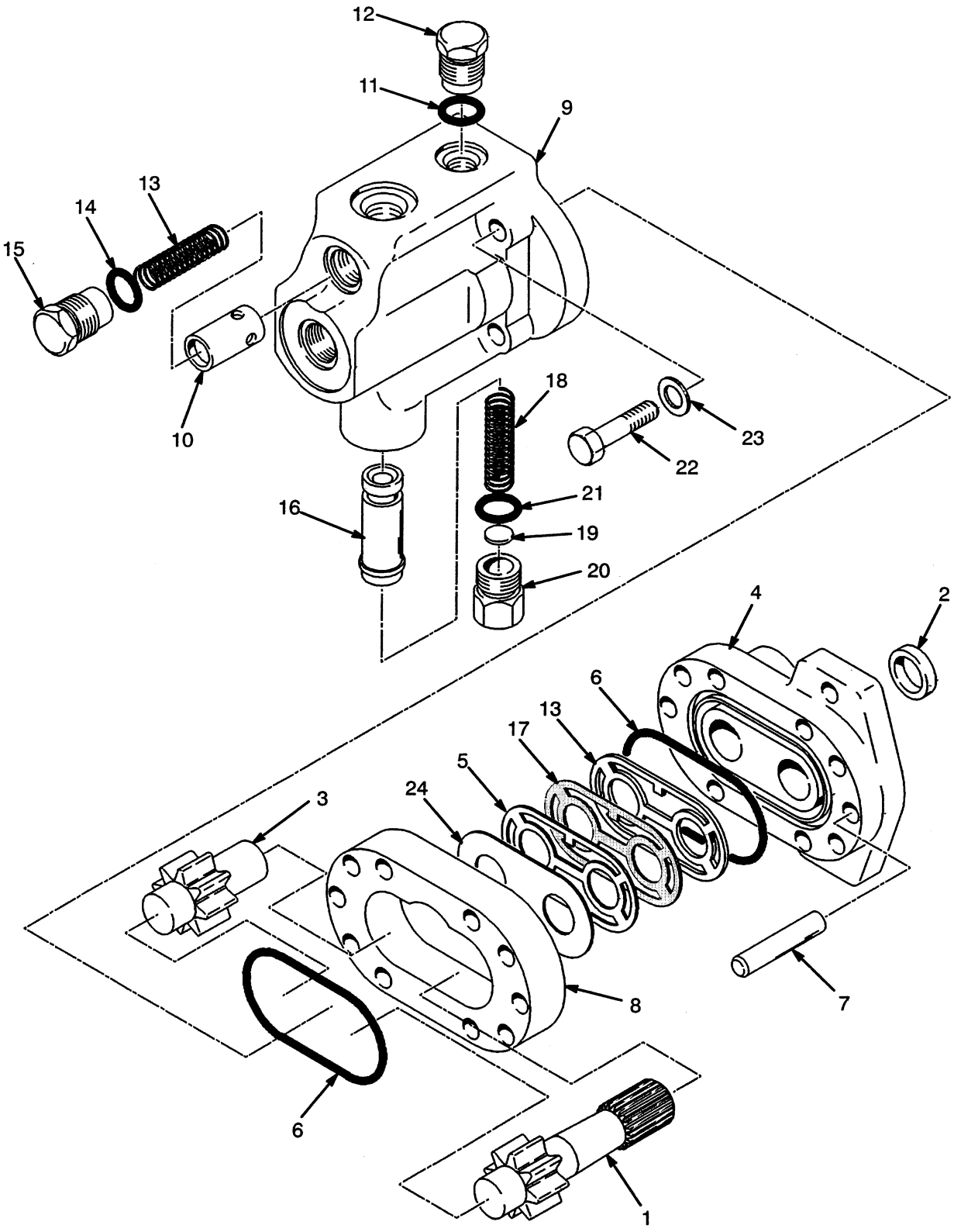
REF		PART NO.	NAME OF PART	QTY
1	a	292681	Lockwasher	1
2		....	Charge Pump	1
			☞ Figure 153	
3		16567	Fitting	1
3		16483	O-Ring	1
4		1303546	Hose	2
5		352846	Tube	1
6		273775	Strap/Clamp	6
7	a	16999	Fitting	1
7	b	16883	Fitting	1
8		16883	Fitting	1
9		14677	Fitting	2
10		352849	Tube	1
11		16539	Fitting	1
11		16482	O-Ring	1
12		1328692	Filter	1
12		1332885	Gasket	1
13		14677	Fitting	1
14		287854	Capscrew	2
14		292682	Lockwasher	2
15		15134	Washer	2
16		352845	Bracket	1
17		17060	Fitting	1
18		17333	Fitting	1
19		69815	Fitting	1
20		16805	Capscrew	3
20		15156	Lockwasher	3
21		15134	Washer	3
22		297864	Base (Filter)	1
23		17666	Fitting	1
24		12844	Fitting	1
25		181766	Fitting	1
25		226414	Adhesive	AR
26		352467	Adapter	1
27		140465	O-Ring	1
27		313022	Sealant	AR
28		16828	Capscrew	2
28		15156	Lockwasher	2
29		142682	Fitting	1
29		16485	O-Ring	1
30		352847	Tube	1
31		352848	Tube	1
32	a	1358120	Sleeve	1
33	a	1326653	Clamp (Insulated)	1
34	a	239503	Nut	1
35		16541	Fitting	2
35		16484	O-Ring	1

a H70-80XL & H90XLS
b H90-110XL

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CHARGE PUMP (FIGURE 153)

OIL CLUTCH



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TRANSMISSION PUMP

OIL CLUTCH

REF		PART NO.	NAME OF PART	QTY
		283721	Charge Pump	1
1		323475	Drive Gear	1
2	a	373962	Seal	1
3		323476	Driven Gear	1
4		323447	Cover (Front)	1
5	a	239624	Heat Shield	1
6	a	373963	O-Ring	2
7		222706	Dowel Pin	2
8		323448	Section (Center)	1
9		323449	Cover (Back)	1
10		323479	Control Spool	1
11	a	373964	O-Ring	1
12		222442	Fitting	1
13	a	323480	Spring	1
14	a	373965	O-Ring	1
15		323481	Control Cap	1
16		323482	Spool	1
17	a	239623	Gasket	1
18		323483	Spring	1
19		323484	Shim	AR
20		323485	Valve Cap	1
21	a	373966	O-Ring	1
22		18516	Capscrew	4
23		239635	Washer	4
24	a	239625	Plate	1

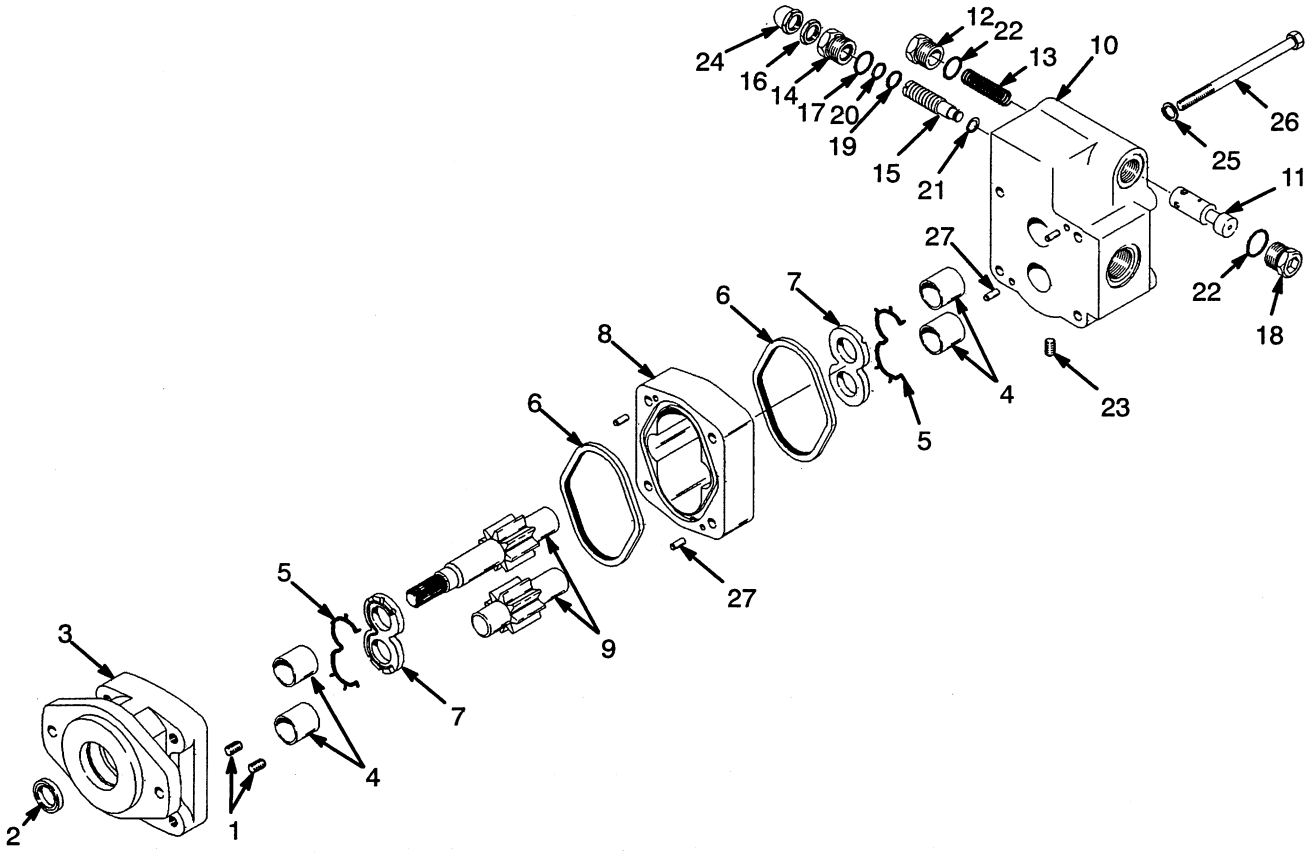
a Included In Repair Kit 323629

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NOTES

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HYDRAULIC PUMP (FIGURE 154)



KEY:
A: With Oil Clutch
B: With Power Shift

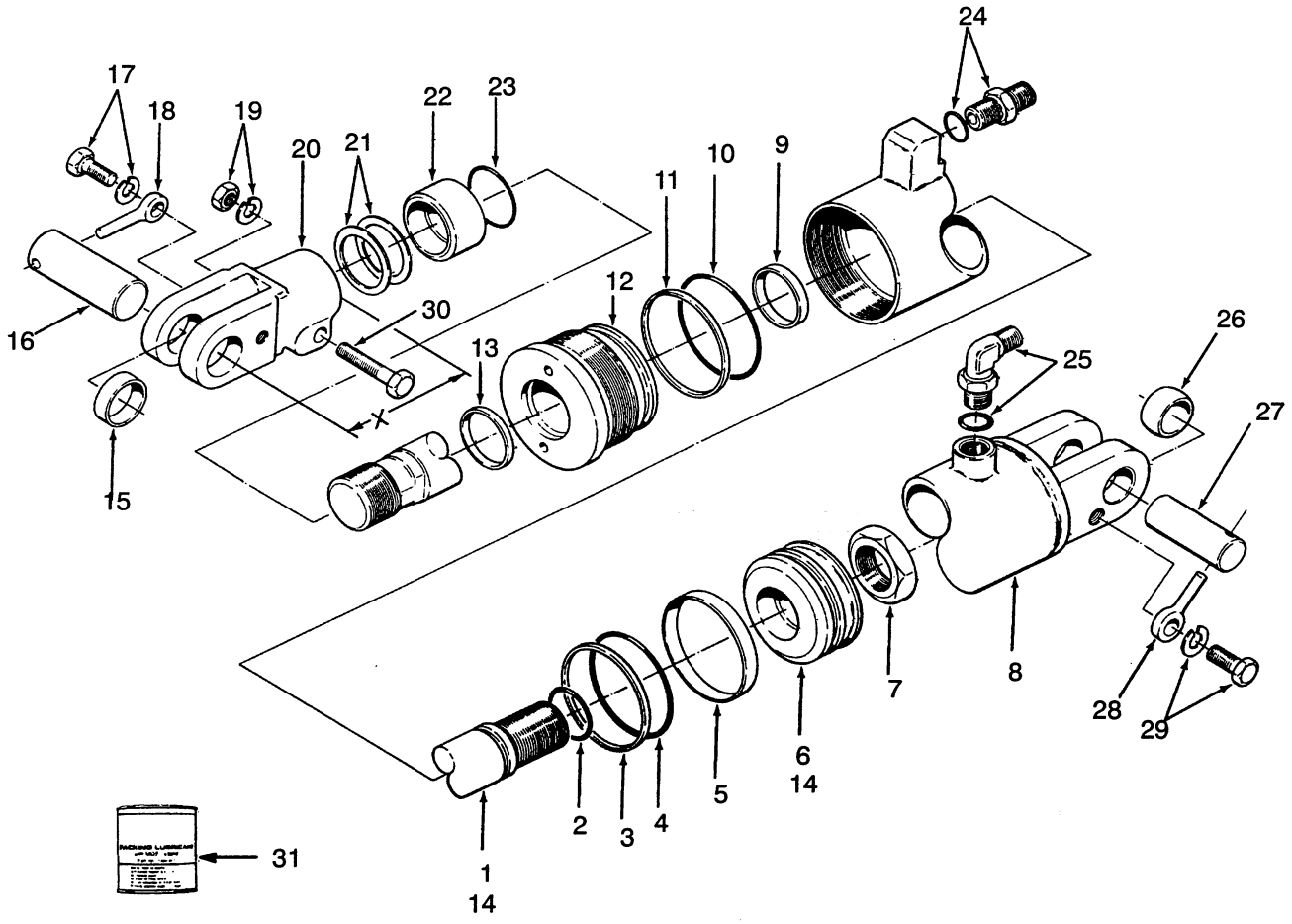
REF		PART NO.	NAME OF PART	QTY A	QTY B
		353473	Pump	1	..
		1343967	Pump	..	1
1		176159	Plug	2	2
2	ab	....	Seal	1	1
3		385856	Cover	1	1
4		1327501	Bushing	1	1
5	b	372112	Seal	2	2
6	a	....	Seal	2	2
7	b	1466398	Kit-Thrust Plate	2	2
8		372110	Housing	1	..
8		1358678	Housing	..	1
9		372113	Shaft/Gear	1	..
9		1358679	Shaft/Gear	..	1
10		372109	End (Port)	1	1
11		....	Spool	1	1
12		1327503	Retainer	1	1
13		1327504	Spring	1	1
14	a	1327505	Cartridge	1	1
15		1327506	Screw	1	1
16		1327507	Nut	1	1
17		1327508	O-Ring	1	1
18		1327509	Plug	1	1
19		104681	O-Ring	1	1
20		1327511	Back-Up Ring	1	1
21		1327512	Snap Ring	1	1
22		1327513	O-Ring	2	2
23		1358860	Plug	1	1
24		1327515	Nut	1	1
25		176167	Washer	4	4
26		14997	Capscrew	4	4
27		1151722	Dowel Pin	4	4

a Included In Seal Kit 1307449 (For Pump 353473)

b Included In Seal Kit 1358680 (For Pump 1343967)

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TILT CYLINDER (FIGURE 155)



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TILT CYLINDER

REF		PART NO.	NAME OF PART	QTY
		352240	Cylinder	2
1		352248	Rod (Optional)	1
2	a	199917	O-Ring (Optional)	1
3	a	1380886	Piston Seal	1
4	a	15882	O-Ring	1
5	a	352287	Ring	1
6		352247	Piston (Optional)	1
7		2036547	Locknut (Optional)	1
8		352283	Shell	1
9	a	215924	Seal	1
10	a	46629	O-Ring	1
11	a	270330	Back-Up Ring	1
12		352245	Cap	1
13	a	193554	Rod Wiper	1
14		387059	Rod/Piston	1
15		192429	Bushing	2
16		248465	Pin	2
17		169268	Capscrew	2
17		15158	Lockwasher	2

REF	PART NO.	NAME OF PART	QTY
18	241079	Anchor	2
19	221711	Nut	2
19	15158	Lockwasher	2
20	....	Rod End (See Chart below)	2
21	192830	Shim (.060 in)	AR
22	304443	Spacer	2
23	15869	O-Ring	2
24	16540	Fitting	2
24	16483	O-Ring	1
25	16558	Fitting	2
25	16483	O-Ring	1
26	192429	Bushing	2
27	248465	Pin	2
28	241079	Anchor	2
29	292527	Capscrew	2
29	292683	Lockwasher	2
30	18590	Capscrew	2
31	186061	Packing Lubricant	AR

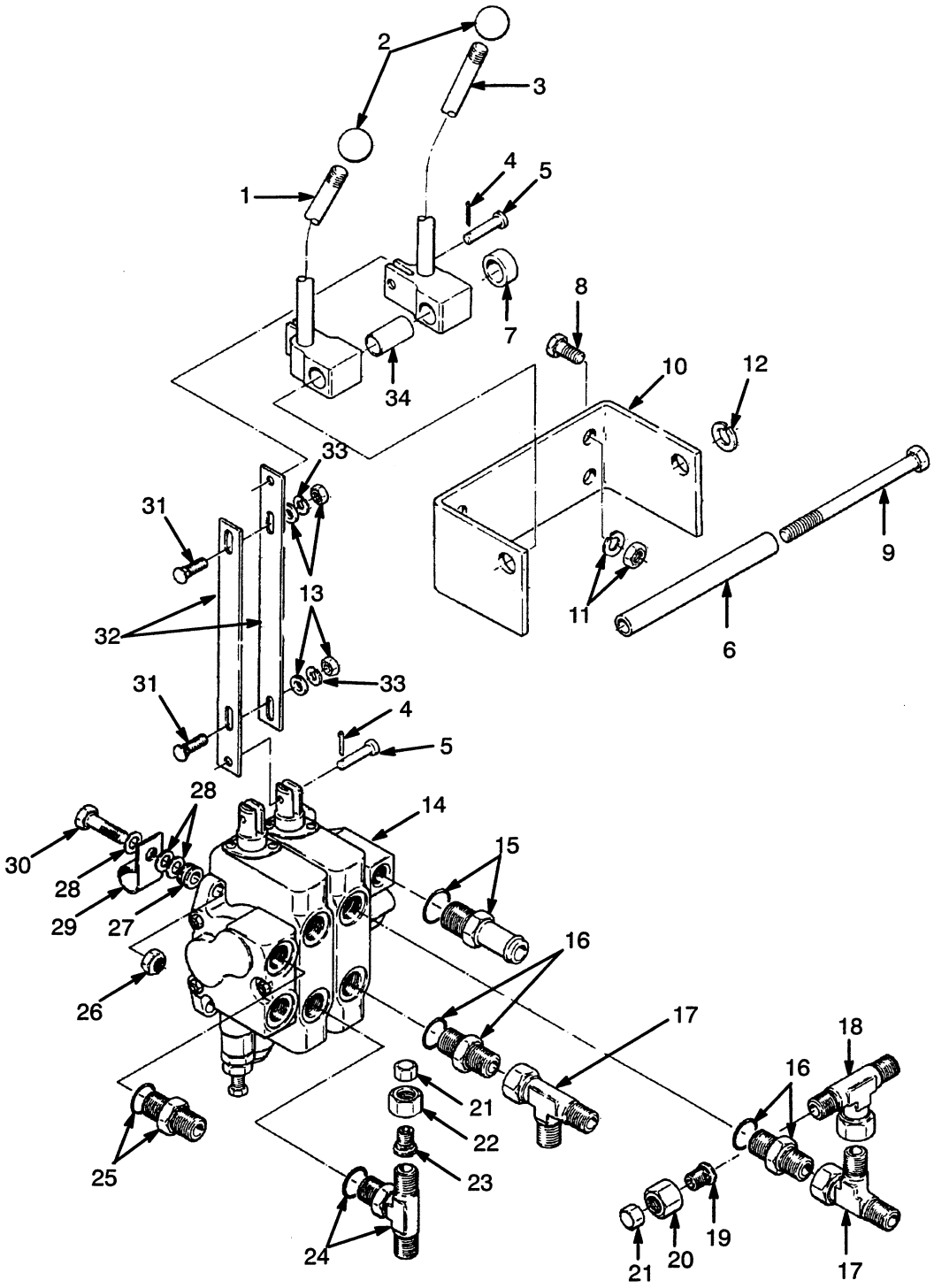
a Included In Seal Kit 1322225

ROD END	MEASUREMENT X	TILT (DEGREES)
248462	3.19 inches	6 Forward
352288	5.59 inches	11 Forward

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CONTROL VALVE ATTACHING PARTS (FIGURE 156)

TWO FUNCTION



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CONTROL VALVE ATTACHING PARTS

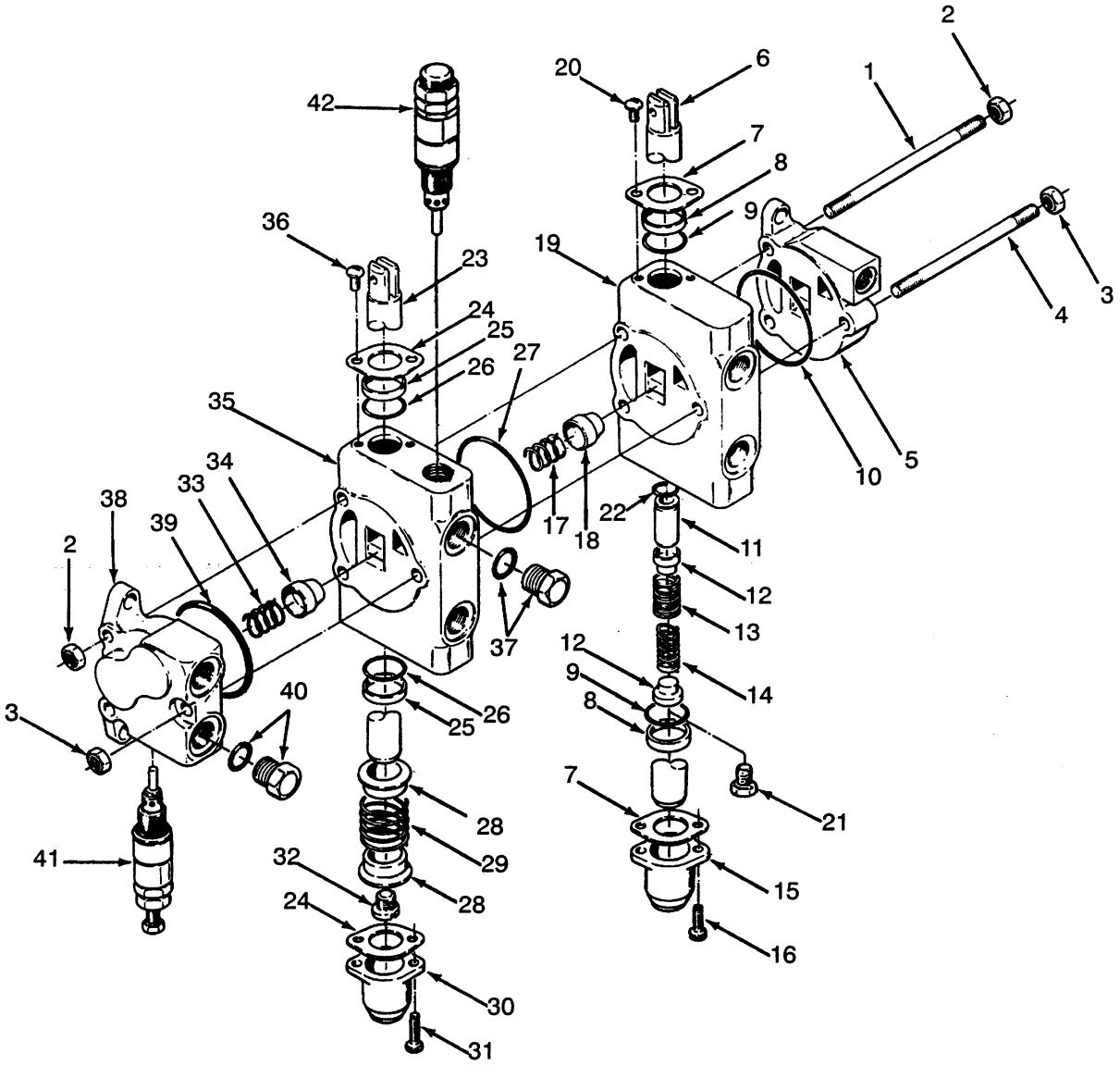
TWO FUNCTION

REF	PART NO.	NAME OF PART	QTY
1	1324350	Lift Lever	1
2	308993	Knob	2
3	1324352	Tilt Lever	1
4	15200	Cotter Pin	4
5	309109	Pin	4
6	1305174	Shaft (Pivot)	1
7	1309475	Collar	1
8	292500	Capscrew	4
9	136681	Capscrew	2
9	1328930	Capscrew	1
10	1309491	Bracket (Mounting)	1
11	292680	Lockwasher	4
11	136687	Nut	4
12	292681	Lockwasher	2
13	15127	Washer	4
13	15054	Nut	4
14	....	Control Valve	1
		☞ Figure 157	
15	89056	Fitting	1
15	16486	O-Ring	1
16	16745	Fitting	2
16	16484	O-Ring	1
17	17061	Fitting	2
18	17049	Fitting	1
19	17776	Fitting	1
20	14489	Fitting	1
21	16923	Fitting	2
22	167261	Fitting	1
23	17779	Fitting	1
24	186995	Fitting	1
24	16485	O-Ring	1
25	142682	Fitting	1
25	16485	O-Ring	1
26	316826	Nut	3
27	91946	Grommet	3
28	320159	Washer	5
29	298132	Clamp	1
30	292517	Capscrew	3
31	15937	Bolt	4
32	325729	Plate	4
33	15154	Lockwasher	4
34	1328698	Bushing	2

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CONTROL VALVE (FIGURE 157)

TWO FUNCTION



CONTROL VALVE

TWO FUNCTION

REF		PART NO.	NAME OF PART	QTY
		352420	Valve	1
1	a	....	Tie Rod	2
2	a	....	Nut	4
3	a	....	Nut	2
4	a	....	Tie Rod	1
5		372918	Module	1
6		372917	Module	1
6		....	Spool	1
7		205121	Plate	2
8	b	....	Wiper	2
9	b	....	O-Ring	2
10		57664	O-Ring	1
11		....	Piston	1
12		320289	Seat	2
13		188517	Spring	1
14		341462	Spring	1
15		188519	Cap	1
16		12949	Capscrew	2
17		205123	Spring	1
18		205120	Poppet	1
19		....	Housing	1
20		16706	Screw	2
21		386015	End	1
21		320291	Capscrew	1
22		16480	O-Ring	1
23		372916	Module	1
23		....	Spool	1
24		205121	Plate	2

REF		PART NO.	NAME OF PART	QTY
25	b	....	Wiper	2
26	b	....	O-Ring	2
27		57664	O-Ring	1
28		188516	Seat	2
29		188517	Spring	1
30		188519	Cap	1
31		12949	Capscrew	2
32		188518	End (Spool)	1
33		205123	Spring	1
34		205120	Poppet	1
35		....	Housing	1
36		16706	Screw	2
37		233693	Fitting	1
37		188486	Plug	1
37		16485	O-Ring	1
38		362104	Section (Inlet)	1
39		57664	O-Ring	1
40		233693	Fitting	1
40		188486	Plug	1
40		16485	O-Ring	1
41		350485	Relief Valve	1
41		305071	Kit-Seal	1
42		378424	Valve	1
42		1309419	Kit-Seal	1

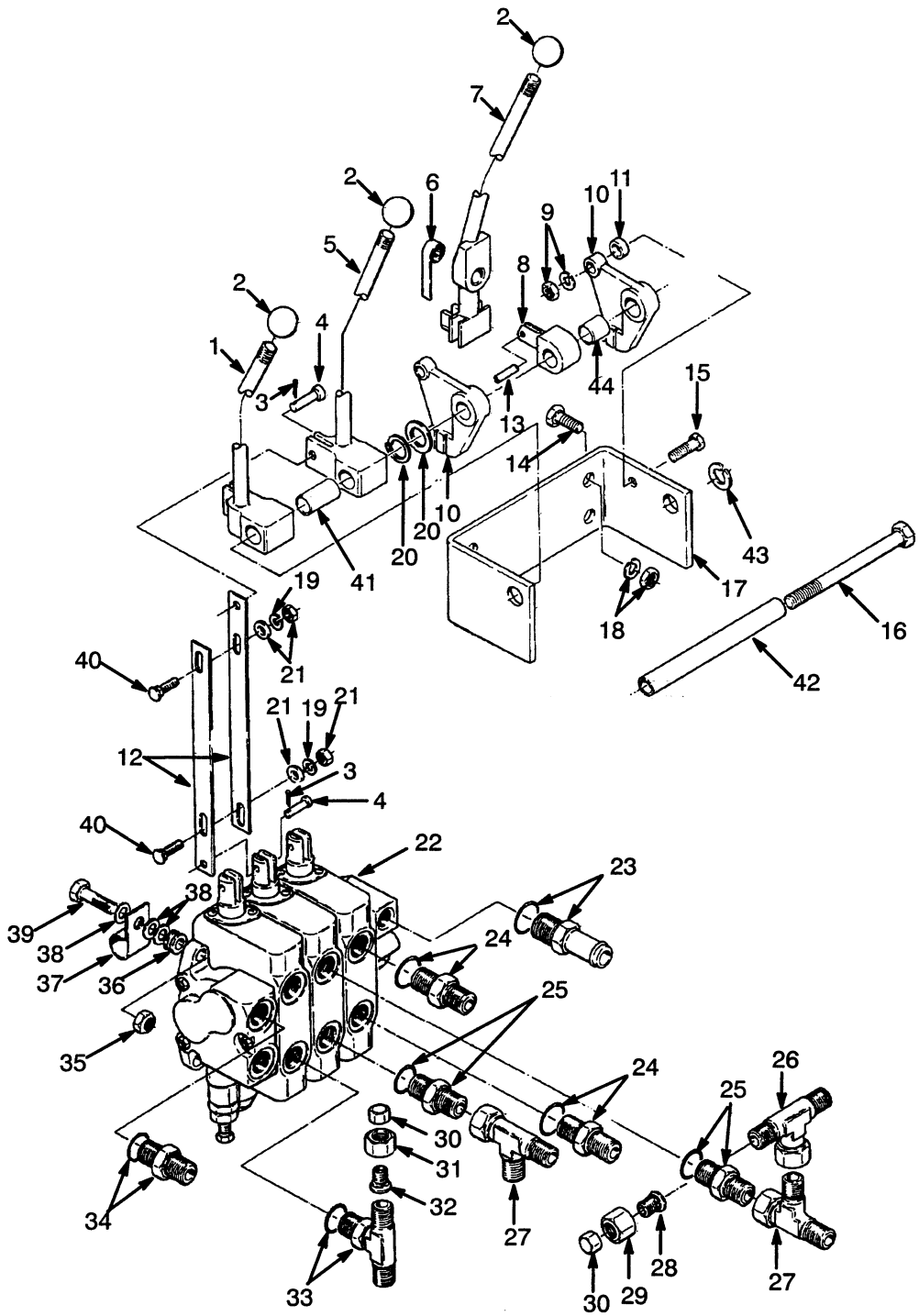
a Included In Tie Rod Kit 328890

b Included In Seal Kit 339315 (Seals 1 Unit)

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CONTROL VALVE ATTACHING PARTS (FIGURE 158)

THREE FUNCTION



CONTROL VALVE ATTACHING PARTS

THREE FUNCTION

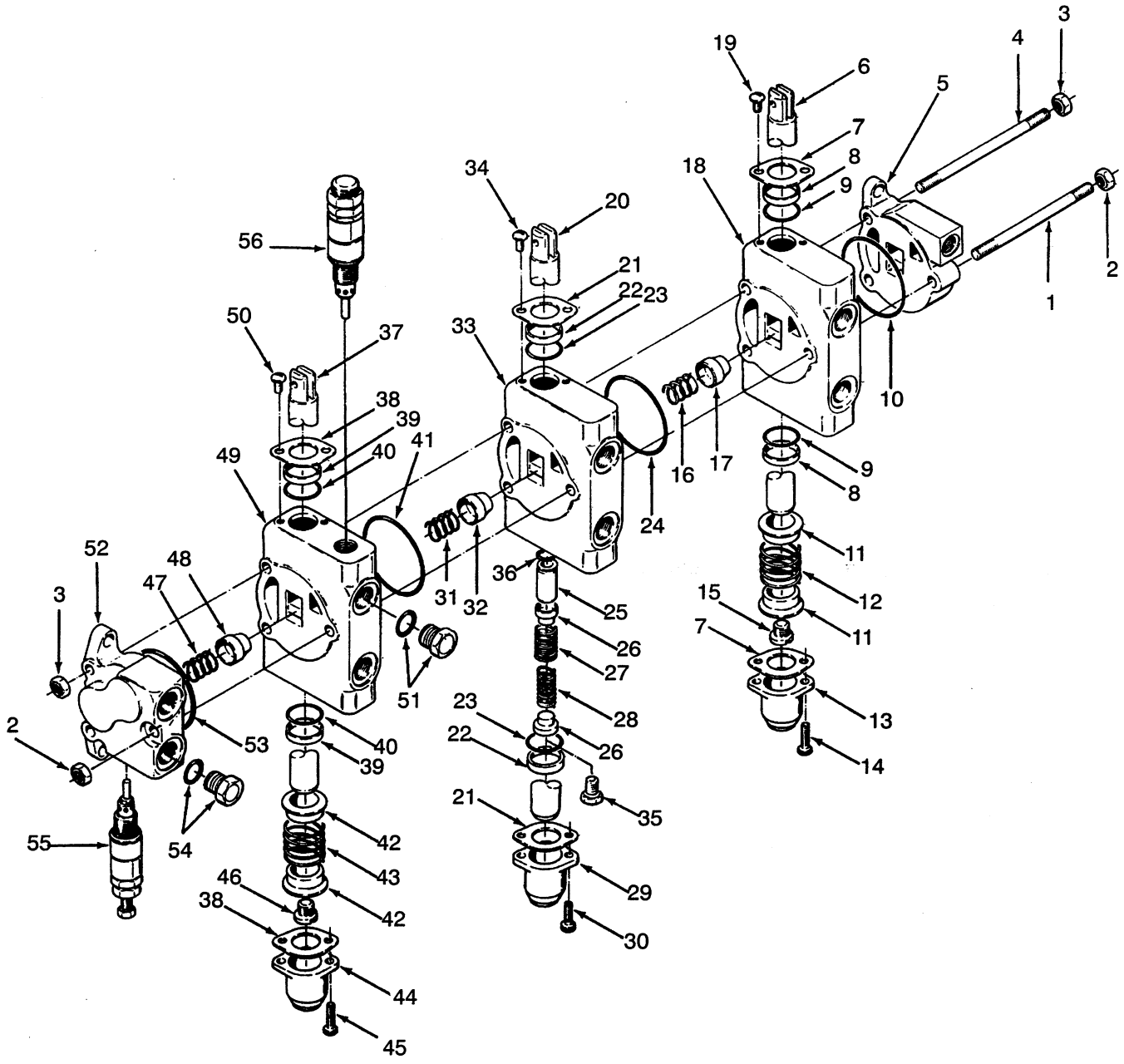
REF	PART NO.	NAME OF PART	QTY
1	1324350	Lift Lever	1
2	308993	Knob	3
3	15200	Cotter Pin	6
4	309109	Pin	6
5	1324352	Tilt Lever	1
6	175861	Spring	1
7	306117	Lever	1
8	306113	Pin	1
9	230881	Locknut	1
9	15163	Lockwasher	1
10	306111	Lever	2
11	306118	Spacer	1
12	325729	Plate	6
13	302428	Pin	1
14	292500	Capscrew	4
15	18085	Capscrew	1
16	1328930	Capscrew	2
17	1309491	Bracket	1
18	136687	Nut	4
18	292680	Lockwasher	4
19	15154	Lockwasher	6
20	1328696	Shim (0.50 mm)	AR
20	1309479	Shim (0.25 mm)	AR
21	15054	Nut	6
21	15127	Washer	6
22	....	Control Valve	1
		☞ Figure 159	

REF	PART NO.	NAME OF PART	QTY
23	89056	Fitting	1
23	16486	O-Ring	1
24	206150	Fitting	2
24	16484	O-Ring	1
25	16745	Fitting	2
25	16484	O-Ring	1
26	17049	Fitting	1
27	17061	Fitting	2
28	17776	Fitting	1
29	14489	Fitting	1
30	16923	Fitting	2
31	167261	Fitting	1
32	17779	Fitting	1
33	186995	Fitting	1
33	16485	O-Ring	1
34	142682	Fitting	1
34	16485	O-Ring	1
35	316826	Nut	3
36	91946	Grommet	3
37	298132	Clamp	1
38	320159	Washer	5
39	292517	Capscrew	3
40	15937	Bolt	6
41	1328698	Bushing	2
42	1305174	Shaft (Pivot)	1
43	292681	Lockwasher	2
44	1328697	Bushing	3

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CONTROL VALVE (FIGURE 159)

THREE FUNCTION



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CONTROL VALVE
THREE FUNCTION

REF		PART NO.	NAME OF PART	QTY
		352421	Valve	1
1	a	....	Tie Rod	1
2	a	....	Nut	2
3	a	....	Nut	4
4	a	....	Tie Rod	2
5		372918	Module	1
6		373148	Module	1
6		....	Spool	1
7		205121	Plate	2
8	b	....	Wiper	2
9	b	....	O-Ring	2
10		57664	O-Ring	1
11		188516	Seat	2
12		188517	Spring	1
13		188519	Cap	1
14		12949	Capscrew	2
15		188518	End (Spool)	1
16		205123	Spring	1
17		205120	Poppet	1
18		....	Housing	1
19		16706	Screw	2
20		372917	Module	1
20		....	Spool	1
21		205121	Plate	2
22	b	....	Wiper	2
23	b	....	O-Ring	2
24		57664	O-Ring	1
25		....	Piston	1
26		320289	Seat	2
27		188517	Spring	1
28		341462	Spring	1
29		188519	Cap	1
30		12949	Capscrew	2
31		205123	Spring	1
32		205120	Poppet	1

REF		PART NO.	NAME OF PART	QTY
33		....	Housing	1
34		16706	Screw	2
35		386015	End	1
35		320291	Capscrew	1
36		16480	O-Ring	1
37		372916	Module	1
37		....	Spool	1
38		205121	Plate (Seal)	2
39	b	....	Wiper	2
40	b	....	O-Ring	2
41		57664	O-Ring	1
42		188516	Seat (Spring)	2
43		188517	Spring	1
44		188519	Cap	1
45		12949	Capscrew	2
46		188518	End (Spool)	1
47		205123	Spring	1
48		205120	Poppet	1
49		....	Housing	1
50		16706	Screw	2
51		233693	Fitting	1
51		188486	Plug	1
51		16485	O-Ring	1
52		362104	Section (Inlet)	1
53		57664	O-Ring	1
54		233693	Fitting	1
54		188486	Plug	1
54		16485	O-Ring	1
55		350485	Relief Valve	1
55		305071	Kit-Seal	1
56		378424	Valve	1
56		1309419	Kit-Seal	1

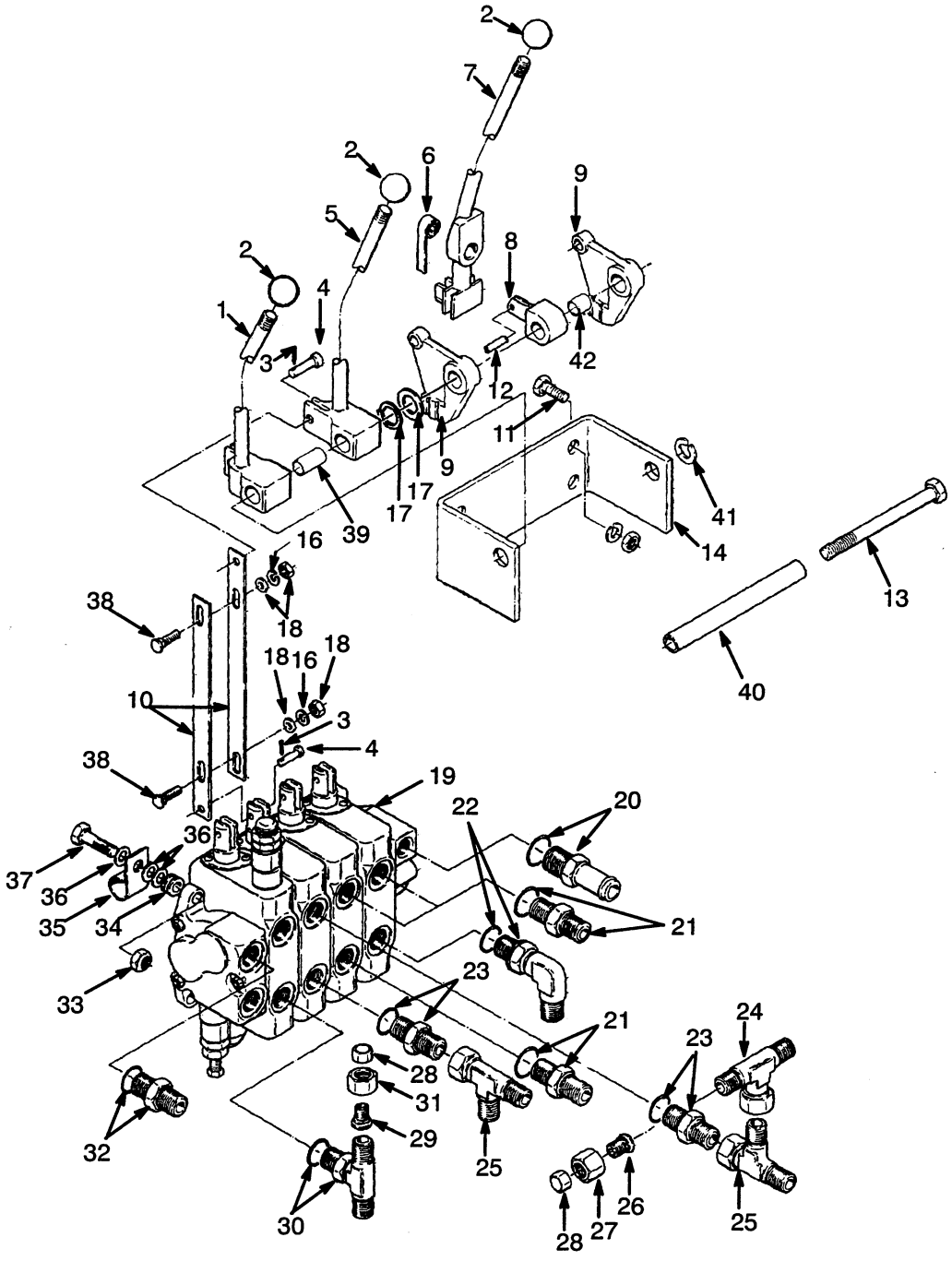
a Included In Tie Rod Kit 328891

b Included In Seal Kit 339315 (Seals One)

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CONTROL VALVE ATTACHING PARTS (FIGURE 160)

FOUR FUNCTION



CONTROL VALVE ATTACHING PARTS

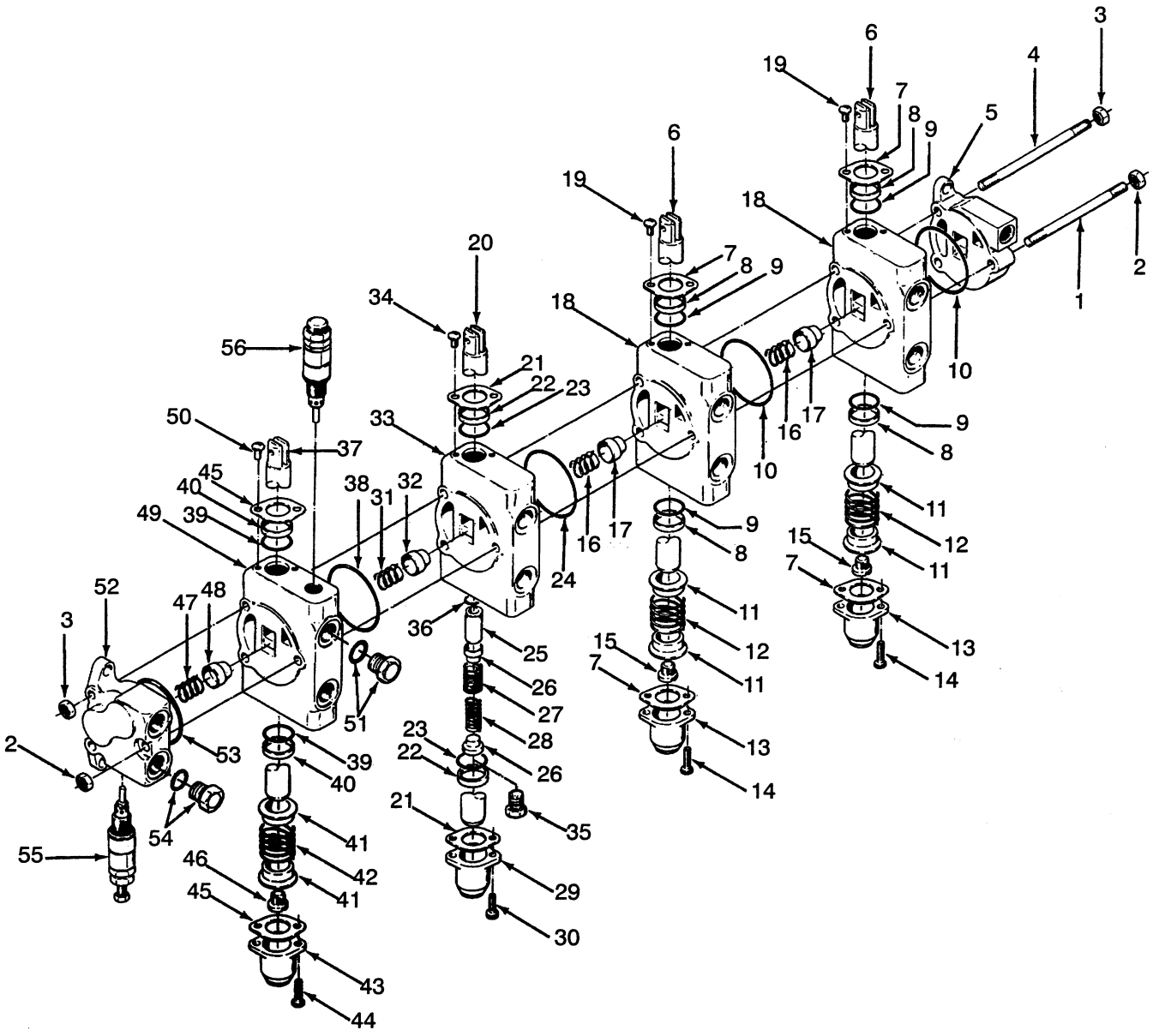
FOUR FUNCTION

REF	PART NO.	NAME OF PART	QTY
1	1324350	Lift Lever	1
2	308993	Knob	3
3	15200	Cotter Pin	8
4	309109	Pin	8
5	1324352	Tilt Lever	1
6	175861	Spring	1
7	306117	Lever	1
8	306113	Pin	1
9	306111	Lever	2
10	325729	Plate	8
11	292500	Capscrew	4
12	302428	Pin	1
13	1328930	Capscrew	1
14	1309491	Bracket	1
15	136687	Nut	4
15	292680	Lockwasher	4
16	15154	Lockwasher	8
17	1328696	Shim (0.50 mm)	AR
17	1309479	Shim (0.25 mm)	AR
18	15054	Nut	8
18	15127	Washer	8
19	....	Control Valve	1
		☞ Figure 161	
20	89056	Fitting	1
20	16486	O-Ring	1
21	206150	Fitting	3
21	16484	O-Ring	1
22	17197	Fitting	1
22	16484	O-Ring	1
23	16745	Fitting	2
23	16484	O-Ring	1
24	17049	Fitting	1
25	17061	Fitting	2
26	17776	Fitting	1
27	14489	Fitting	1
28	16923	Fitting	2
29	17779	Fitting	1
30	186995	Fitting	1
30	16485	O-Ring	1
31	167261	Fitting	1
32	142682	Fitting	1
32	16485	O-Ring	1
33	316826	Nut	3
34	91946	Grommet	3
35	298132	Clamp	1
36	320159	Washer	5
37	292517	Capscrew	3
38	15937	Bolt	8
39	1328698	Bushing	2
40	1305174	Shaft (Pivot)	1
41	292681	Lockwasher	2
42	1328697	Bushing	3

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CONTROL VALVE (FIGURE 161)

FOUR FUNCTION



CONTROL VALVE

FOUR FUNCTION

REF		PART NO.	NAME OF PART	QTY
		352422	Control Valve	1
1	a	....	Tie Rod	1
2	a	....	Nut	2
3	a	....	Nut	4
4	a	....	Tie Rod	2
5		372918	Module	1
6		373148	Module	2
6		....	Spool	1
7		205121	Plate	2
8	b	....	Wiper	2
9	b	....	O-Ring	2
10		57664	O-Ring	1
11		188516	Seat	2
12		188517	Spring	1
13		188519	Cap	1
14		12949	Capscrew	2
15		188518	End (Spool)	1
16		205123	Spring	1
17		205120	Poppet	1
18		....	Housing	1
19		16706	Screw	2
20		372917	Module	1
20		....	Spool	1
21		205121	Plate	2
22	b	....	Wiper	2
23	b	....	O-Ring	2
24		57664	O-Ring	1
25		....	Piston	1
26		320289	Seat	2
27		188517	Spring	1
28		341462	Spring	1
29		188519	Cap	1
30		12949	Capscrew	2
31		205123	Spring	1
32		205120	Poppet	1

REF		PART NO.	NAME OF PART	QTY
33		....	Housing	1
34		16706	Screw	2
35		386015	End	1
35		320291	Capscrew	1
36		16480	O-Ring	1
37		372916	Module	1
37		....	Spool	1
38		57664	O-Ring	1
39	b	....	O-Ring	2
40	b	....	Wiper	2
41		188516	Seat (Spring)	2
42		188517	Spring	1
43		188519	Cap	1
44		12949	Capscrew	2
45		205121	Plate	2
46		188518	End (Spool)	1
47		205123	Spring	1
48		205120	Poppet	1
49		....	Housing	1
50		16706	Screw	2
51		233693	Fitting	1
51		188486	Plug	1
51		16485	O-Ring	1
52		362104	Section (Inlet)	1
53		57664	O-Ring	1
54		233693	Fitting	1
54		188486	Plug	1
54		16485	O-Ring	1
55		350485	Relief Valve	1
55		305071	Kit-Seal	1
56		378424	Valve	1
56		1309419	Kit-Seal	1

a Included In Tie Rod Kit 328892

b Included In Seal Kit 339315 (Seals One Unit)

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NOTE

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TWO-STAGE LIMITED FREE LIFT MAST
(A510)

CARRIAGE (Figure 167)
TWO-STAGE LFL ..... Page 346

CARRIAGE (Figure 168)
TWO-STAGE LFL
H90-100XL ATTACHMENT ..... Page 348

FORKS (Figure 169)
HOOK TYPE ..... Page 350

FORKS (Figure 170)
HOOK TYPE ..... Page 351

FORKS (Figure 171)
PIN TYPE ..... Page 352

FORKS (Figure 172)
BLOCK TYPE
48 INCH CARRIAGE ..... Page 353

FORKS (Figure 173)
BLOCK TYPE
62 INCH CARRIAGE ..... Page 354

HEADER HOSES (Figure 166)
TWO-STAGE LIMITED FREE LIFT MAST ..... Page 344

INNER MAST (Figure 163)
TWO-STAGE LFL ..... Page 338

LIFT CYLINDER (Figure 165)
TWO-STAGE LFL ..... Page 342

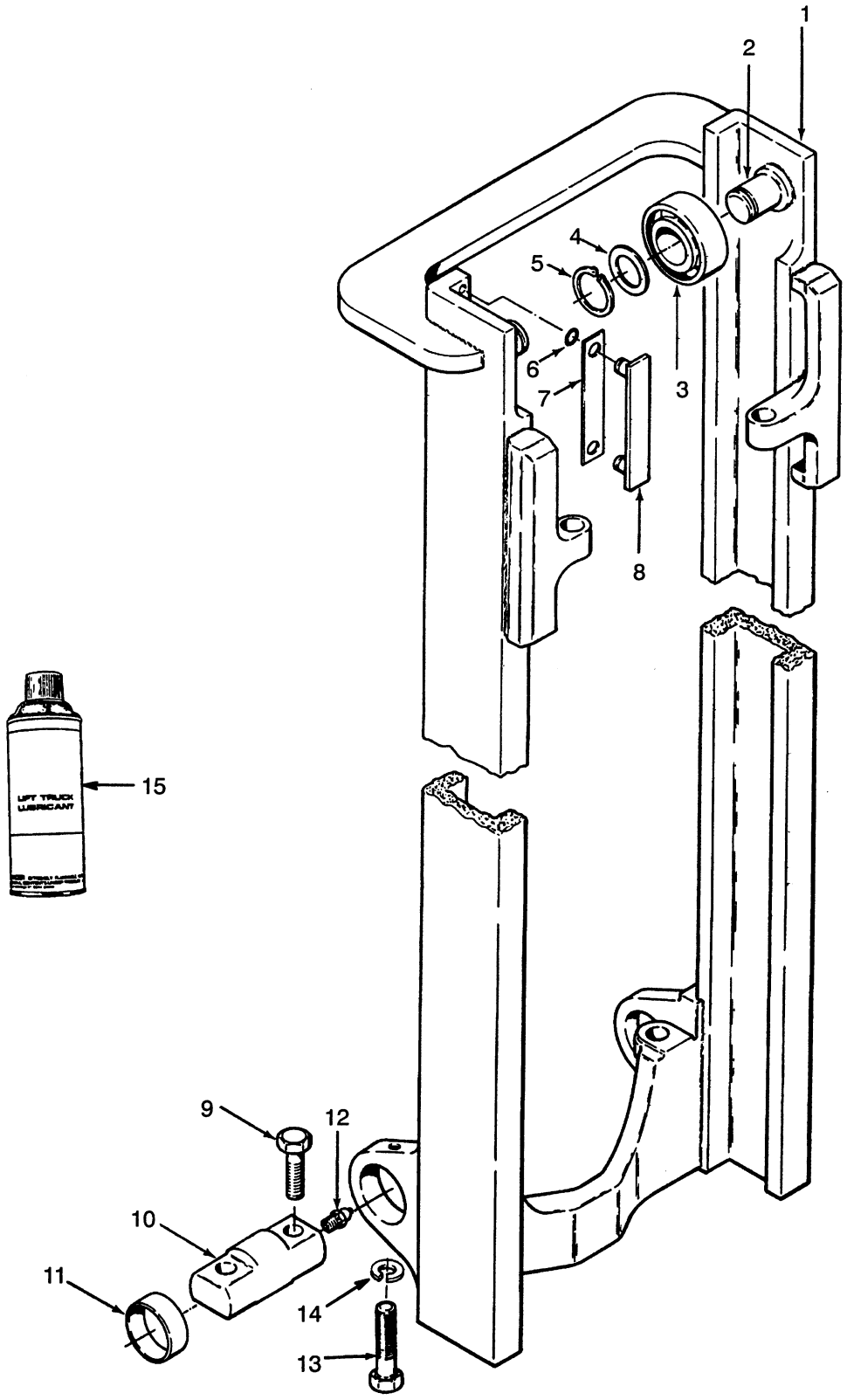
MAIN LIFT (Figure 164)
TWO-STAGE LFL ..... Page 340

OUTER MAST (Figure 162)
TWO-STAGE LFL ..... Page 336

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OUTER MAST (FIGURE 162)

TWO-STAGE LFL



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OUTER MAST

TWO-STAGE LFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		119.0 in (3020 mm)	143.5 in (3650 mm)	167.5 in (4250 mm)	195.0 in (4950 mm)	218.5 in (5550 mm)	242.0 in (6150 mm)
	MAST GROUP NUMBER	**A510-3020**	**A510-3650**	**A510-4250**	**A510-4950**	**A510-5550**	**A510-6150**
	Mast	341239	341240	341241	367135	367136	379800
1	Outer Mast	341157	341158	341159	366534	366535	380640

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		108.5 in (2760 mm)	133.5 in (3390 mm)	157.0 in (3990 mm)	184.5 in (4690 mm)	208.0 in (5290 mm)	232.0 in (5890 mm)
	MAST GROUP NUMBER	**A510-2760**	**A510-3390**	**A510-3990**	**A510-4690**	**A510-5290**	**A510-5890**
	Mast	341242	341243	341244	379801	379802	379803
1	Outer Mast	341157	341158	341159	366534	366535	380640

REF		PART NO.	NAME OF PART	QTY
	a	....	Mast	1
1	a	....	Outer Mast	1
2		341144	Stub Shaft	2
3	b	1333649	Load Roller (A, Standard Size)	2
3	b	1343002	Load Roller (B, 0.030 in Oversize, Optional)	AR
3	b	1343003	Load Roller (C, 0.060 in Oversize, Optional)	AR
4		126765	Shim (0.020 in)	AR
5		187489	Snap Ring	2
6		104506	O-Ring	4
7		161273	Shim (0.020 in)	AR
7		161272	Shim (0.007 in) (Optional)	AR
8		104264	Bearing Strip	2
9		293698	Capscrew	4
10		352178	Pin	2
11		360569	Bushing	2
12		16001	Fitting	2
13		292589	Capscrew	2
14		296430	Washer	2
15		171351	Lubricant	AR

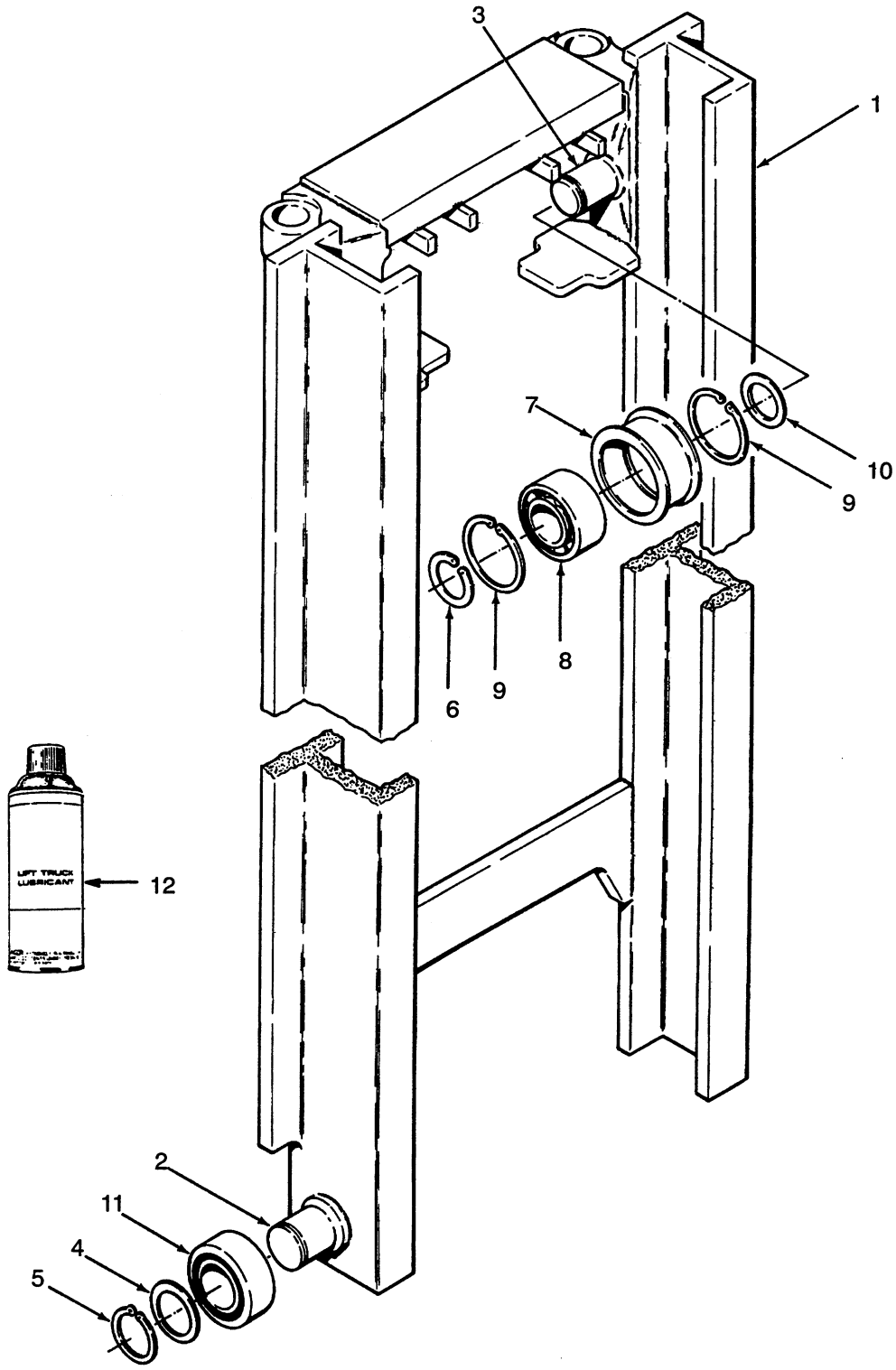
a See Charts Above

b The Letter Is Stamped On The Inside Face Of The Load Roller

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INNER MAST (FIGURE 163)

TWO-STAGE LFL



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INNER MAST

TWO-STAGE LFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		119.0 in (3020 mm)	143.5 in (3650 mm)	167.5 in (4250 mm)	195.0 in (4950 mm)	218.5 in (5550 mm)	242.0 in (6150 mm)
	MAST GROUP NUMBER	**A510-3020**	**A510-3650**	**A510-4250**	**A510-4950**	**A510-5550**	**A510-6150**
	Mast	341239	341240	341241	367135	367136	379800
1	Inner Mast	341165	341166	341167	367125	367126	380646

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		108.5 in (2760 mm)	133.5 in (3390 mm)	157.0 in (3990 mm)	184.5 in (4690 mm)	208.0 in (5290 mm)	232.0 in (5890 mm)
	MAST GROUP NUMBER	**A510-2760**	**A510-3390**	**A510-3990**	**A510-4690**	**A510-5290**	**A510-5890**
	Mast	341242	341243	341244	379801	379802	379803
1	Inner Mast	341165	341166	341167	367125	367126	380646

REF		PART NO.	NAME OF PART	QTY
	a	....	Mast	1
1	a	....	Inner Mast	1
2		341144	Stub Shaft	2
3		368183	Stub Shaft, RH	1
3		368184	Stub Shaft, LH	1
4		126765	Shim (.020 in)	AR
5		187489	Snap Ring	2
6		12891	Snap Ring	2
7		319782	Sheave	2
8		334932	Bearing	1
9		59625	Snap Ring	2
10		327804	Spacer	2
11	b	1333649	Load Roller (A, Standard)	2
11	b	1343002	Load Roller (B, .030 in)	AR
11	b	1343003	Load Roller (C, .060 in)	AR
12		171351	Lubricant	AR

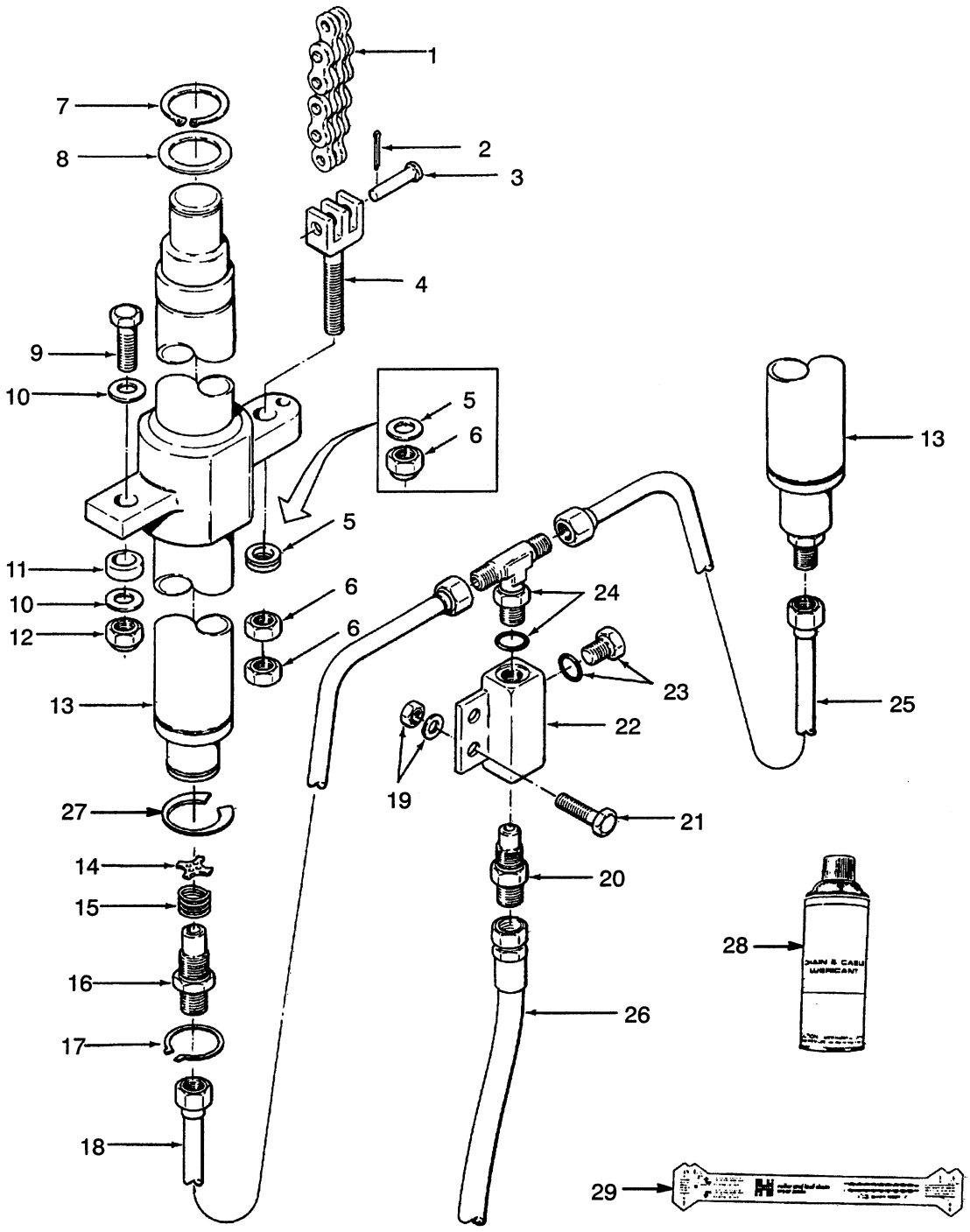
a See Charts Above

b The Letter Is Stamped On The Inside Face Of The Load Roller

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MAIN LIFT (FIGURE 164)

TWO-STAGE LFL



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MAIN LIFT

TWO-STAGE LFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		119.0 in (3020 mm)	143.5 in (3650 mm)	167.5 in (4250 mm)	195.0 in (4950 mm)	218.5 in (5550 mm)	242.0 in (6150 mm)
	MAST GROUP NUMBER	**A510-3020**	**A510-3650**	**A510-4250**	**A510-4950**	**A510-5550**	**A510-6150**
	Mast	341239	341240	341241	367135	367136	379800
1	Lift Chain	182342	191072	191076	371357	327869	388409

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		108.5 in (2760 mm)	133.5 in (3390 mm)	157.0 in (3990 mm)	184.5 in (4690 mm)	208.0 in (5290 mm)	232.0 in (5890 mm)
	MAST GROUP NUMBER	**A510-2760**	**A510-3390**	**A510-3990**	**A510-4690**	**A510-5290**	**A510-5890**
	Mast	341242	341243	341244	379801	379802	379803
1	Lift Chain	338646	347243	152407	339875	151611	388410

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

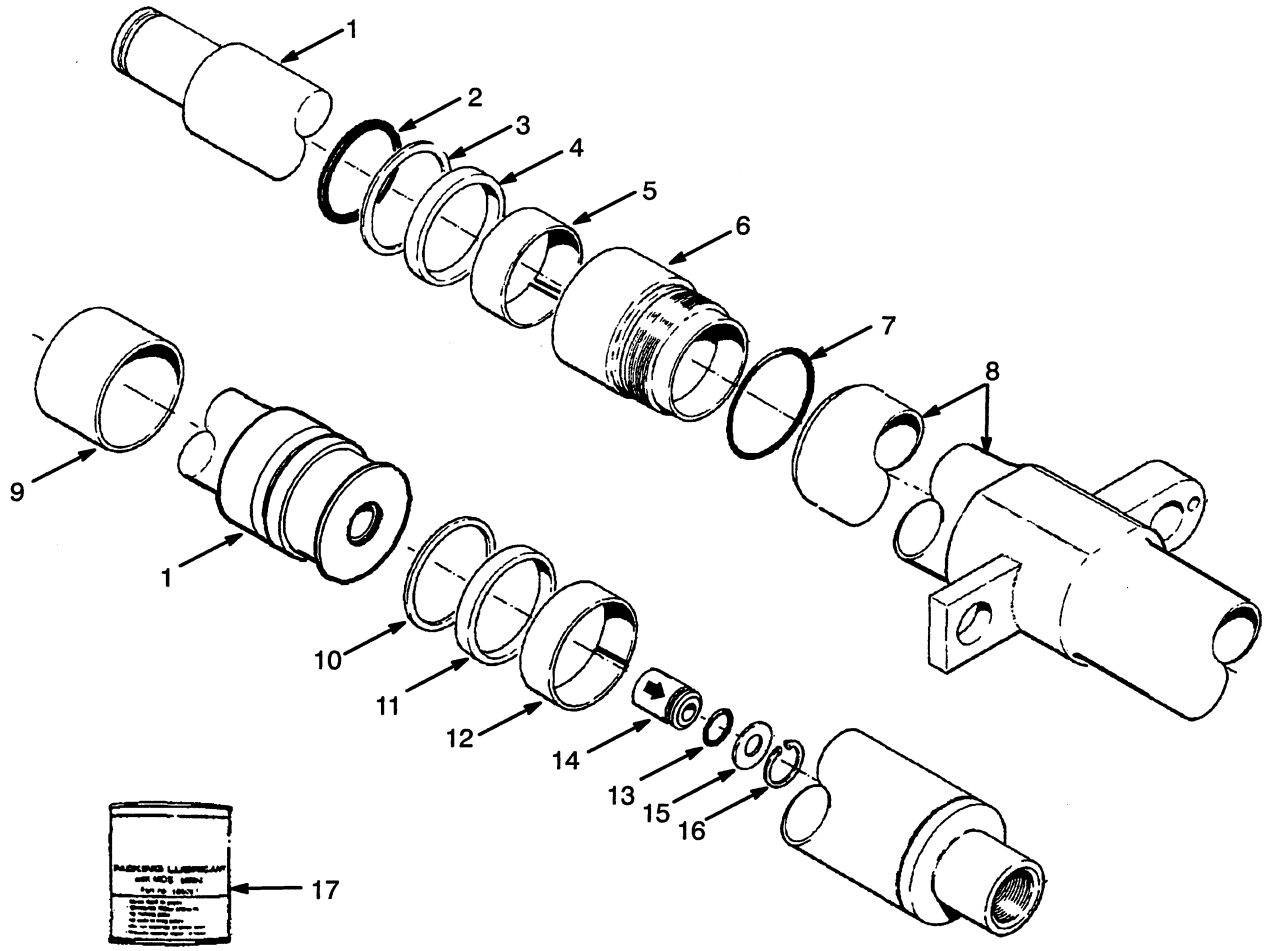
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Mast	1	1
1	a	....	Lift Chain	2	2
2		15222	Cotter Pin	2	2
3		327591	Pin	2	..
3		339932	Pin	..	2
4		1331990	Chain Anchor	2	..
4		1331991	Chain Anchor	..	2
5		1332704	Spherical Washer	2	2
6		221717	Nut	4	4
7		304523	Snap Ring	2	2
8		332061	Washer	2	2
9		292589	Capscrew	2	2
10		296431	Washer	4	4
11		351565	Spacer	2	2
12		316829	Nut	2	2
13		....	Lift Cylinder ☞ Figure 165	2	2
14		373286	Washer	2	2
15		120938	Spring	2	2
16		184799	Fitting	2	2
17		351350	Snap Ring	AR	AR
18		373269	Tube, RH	1	1
19		316826	Nut	2	2
19		320159	Washer	2	2
20		315262	Control Valve	1	..
20		16982	O-Ring	1	..
20	b	319891	Control Valve	1	..
20		16982	O-Ring	1	..
20		319891	Control Valve	..	1
20		16982	O-Ring	..	1
21		136985	Capscrew	2	2
22		368221	Housing	1	1
23		14603	Adapter	1	1
23		16486	O-Ring	1	1
24		274518	Fitting	1	1
24		16484	O-Ring	1	1
25		373268	Tube, LH	1	1
26		385498	Hose	1	1
27		1344750	Shim (0.75 mm)	AR	AR
28		171350	Chain & Cable Lubricant	AR	AR
29		599737	Chain Wear Scale	AR	AR

a See Charts Above
b 6150 mm 242.0 inch Lift

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LIFT CYLINDER (FIGURE 165)

TWO-STAGE LFL



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LIFT CYLINDER

TWO-STAGE LFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		119.0 in (3020 mm)	143.5 in (3650 mm)	167.5 in (4250 mm)	195.0 in (4950 mm)	218.5 in (5550 mm)	242.0 in (6150 mm)
	Lift Cylinder	1331307	1331308	1331309	1331310	1331311	1331318
1	Rod/Piston	351547	351548	351549	366546	366547	381102
8	Shell	351569	351570	351571	366542	366543	381094
9	Spacer	.....	.....	.....	367139	367140	381110

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		108.5 in (2760 mm)	133.5 in (3390 mm)	157.0 in (3990 mm)	184.5 in (4690 mm)	208.0 in (5290 mm)	232.0 in (5890 mm)
	Lift Cylinder	1331312	1331313	1331314	1331315	1331316	1331317
1	Rod/Piston	351550	351551	351552	381100	381101	381102
8	Shell	351572	351573	351574	381092	381093	381094
9	Spacer	351576	351576	351576	381111	388408	381112

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

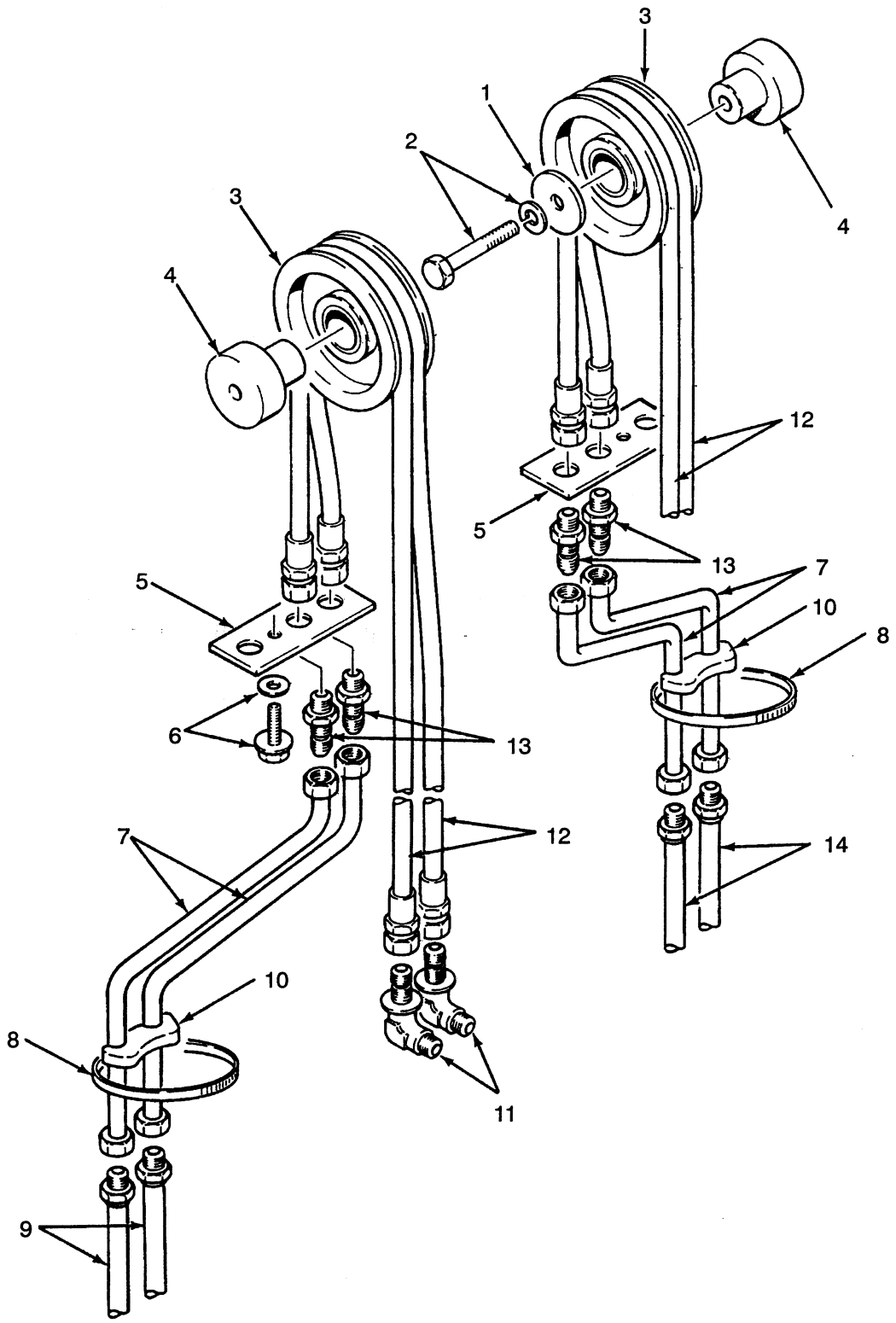
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Lift Cylinder	2	2
1	a	....	Rod	1	1
2		1310371	Wiper	1	..
2		1329784	Wiper	..	1
3	b	638249	Back-Up Ring	1	..
3	cd	638250	Back-Up Ring	1	..
3	d	638250	Back-Up Ring	..	1
4	b	270077	Seal	1	..
4	cd	201829	Seal	1	..
4	d	201829	Seal	..	1
5	b	215425	Wear Ring	1	..
5	cd	215301	Wear Ring	1	..
5	d	215301	Wear Ring	..	1
6		1329785	Retainer	1	..
6		1329786	Retainer	..	1
7	b	57664	O-Ring	1	..
7	d	15879	O-Ring	..	1
8	a	....	Shell	1	1
9	a	....	Spacer	1	1
10	b	638249	Back-Up Ring	1	..
10	cd	351532	Back-Up Ring	1	..
10	d	351532	Back-Up Ring	..	1
11	b	270077	Seal	2	1
11	cd	358300	Seal	1	..
11	d	358300	Seal	..	1
12	b	297532	Wear Ring	1	..
12	cd	351531	Wear Ring	1	..
12	d	351531	Wear Ring	..	1
13	bd	39348	O-Ring	1	1
14		257913	Valve	1	1
15		297531	Washer	1	1
15		637635	Washer (Optional)	1	1
16		187388	Snap Ring	1	1
17		186061	Packing Lubricant	ARAR	

a See Chart Above
b Included In Seal Kit 1332563
c 242.0 Inch Lift
d Included In Seal Kit 1332564

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HEADER HOSES (FIGURE 166)

TWO-STAGE LIMITED FREE LIFT MAST



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HEADER HOSES

TWO-STAGE LIMITED FREE LIFT MAST

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		119.0 in (3020 mm)	143.5 in (3650 mm)	167.5 in (4250 mm)	195.0 in (4950 mm)	218.5 in (5550 mm)	242.0 in (6150 mm)
	MAST GROUP NUMBER	**A510-3020**	**A510-3650**	**A510-4250**	**A510-4950**	**A510-5550**	**A510-6150**
7	Tube	368194	368195	368196	368197	368198	388462
12	Hose	371350	371351	371352	371353	371354	389913

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS					
		108.5 in (2760 mm)	133.5 in (3390 mm)	157.0 in (3990 mm)	184.5 in (4690 mm)	208.0 in (5290 mm)	232.0 in (5890 mm)
	MAST GROUP NUMBER	**A510-2760**	**A510-3390**	**A510-3990**	**A510-4690**	**A510-5290**	**A510-5890**
7	Tube	384567	384568	384569	388463	388464	388465
12	Hose	371350	371351	371352	371353	371354	389913

KEY:
A: Three Function Control Valve
B: Four Function Control Valve

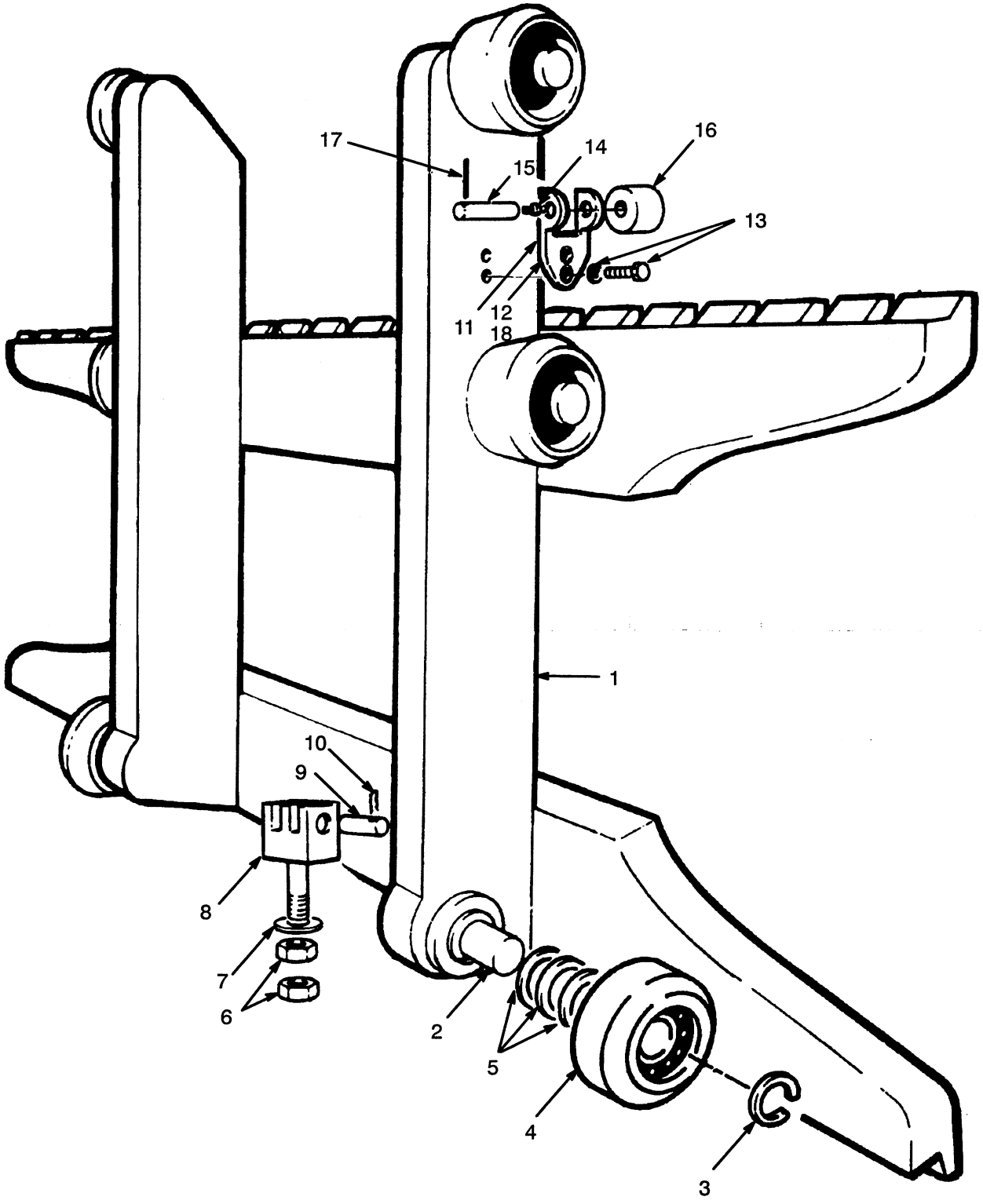
REF		PART NO.	NAME OF PART	QTY A	QTY B
1		300932	Washer	1	2
2		292535	Capscrew	1	2
2		292683	Lockwasher	1	2
3		1332705	Sheave/Bushing	1	2
3		332057	Bushing	1	1
4		357529	Stub Shaft	1	2
5		1301924	Plate	1	2
6		320159	Washer	1	2
6		351668	Screw	1	2
7	a	....	Tube	2	4
8		78286	Clamp	2	4
9		367149	Hose	2	2
10		340054	Spacer	2	4
11		16458	Fitting	2	4
12	a	....	Hose	2	4
13		16449	Fitting	2	4
14		367150	Hose	..	2

a See Chart Above

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CARRIAGE (FIGURE 167)

TWO-STAGE LFL



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CARRIAGE

TWO-STAGE LFL

KEY:
A: H70 - 90XL
B: H90 - 110XL

REF		PART NO.	NAME OF PART	QTY A	QTY B
		1379233	Carriage (48 in)	1	..
		1379235	Carriage (60 in)	1	..
		341236	Carriage (48 in)	..	1
		341237	Carriage (60 in)	..	1
1		1379234	Frame (48 in)	1	..
1		1379236	Frame (60 in)	1	..
1		341207	Frame (48 in)	..	1
1		341198	Frame (60 in)	..	1
2		341144	Stub Shaft	6	6
3		187489	Ring - Snap	6	6
4	a	1333648	Load Roller (A, Standard Size)	6	6
4	a	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR	AR
4	a	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR	AR
5		126765	Shim (.020 in)	AR	AR
6		221717	Nut	4	4
7		1332704	Base Ring	2	2
8		351666	Chain Anchor	2	..
8		351667	Chain Anchor	..	2
9		327591	Pin	2	..
9		339932	Pin	..	2
10		15222	Cotter Pin	2	2
11		192424	Shim (0.030 in, Optional)	..	AR
11		192425	Shim (0.062 In, Optional)	..	AR
12		244008	Bracket (Roller, Optional)	..	2
13		292528	Capscrew (Optional)	..	4
13		292683	Lockwasher (Optional)	..	4
14		16009	Grease Fitting (Optional)	..	2
15		244009	Pin (Optional)	..	2
16		244005	Roller(Optional)	..	2
17		66333	Spring Pin (Optional)	..	2
18		366116	Spacer	AR	AR

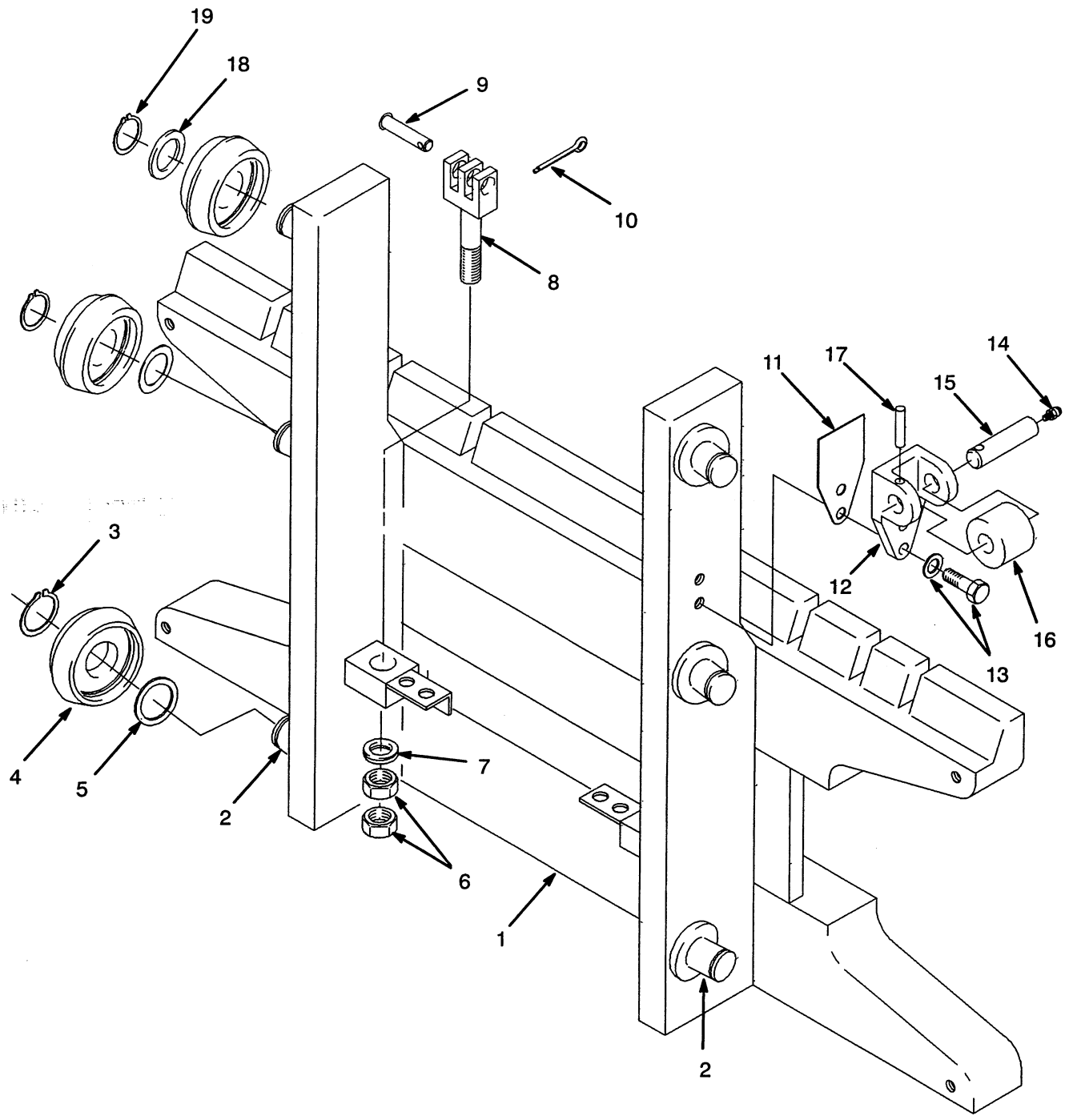
a The Letter Is Stamped On The Inside Face Of The Load Roller

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CARRIAGE (FIGURE 168)

TWO-STAGE LFL

H90-100XL ATTACHMENT



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CARRIAGE

TWO-STAGE LFL

H90-100XL ATTACHMENT

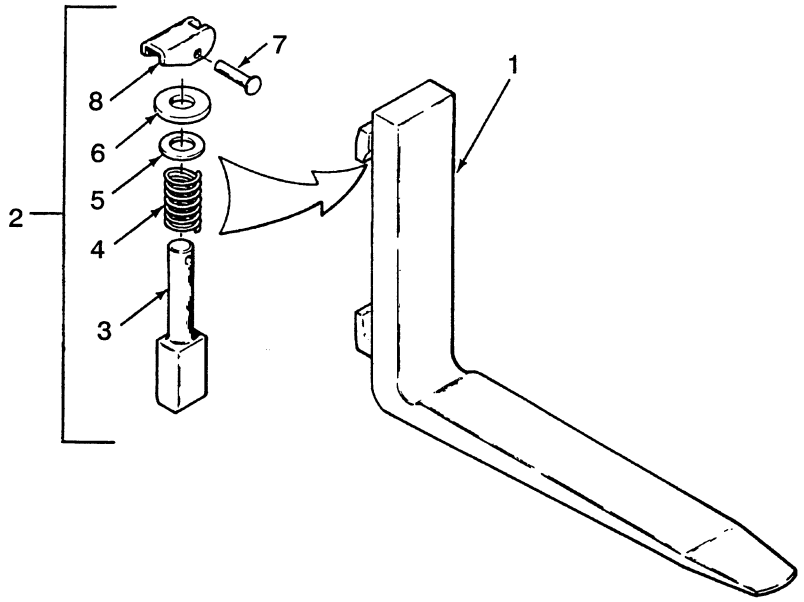
REF		PART NO.	NAME OF PART	QTY
		1379237	Carriage (42 in)	1
1		1379238	Frame (42 in)	1
2		341144	Stub Shaft	6
3		187489	Snap Ring	6
4	a	1333648	Load Roller (A, Standard Size)	6
4	a	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR
4	a	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR
5		126765	Shim (.020 in)	AR
6		221717	Nut	2
7		1332704	Base Ring	2
8		351667	Chain Anchor	2
9		339932	Pin	2
10		15222	Cotter Pin	2
11		192424	Shim (0.030 in)	AR
11		192425	Shim (0.062 in)	AR
12		244008	Bracket (Roller)	2
13		292528	Capscrew	4
13		292683	Lockwasher	4
14		16009	Grease Fitting	2
15		244009	Pin	2
16		244005	Roller	2
17		66333	Spring Pin	2
18		366116	Spacer	2
19		187489	Snap Ring	2

a The Letter Is Stamped On The Inside Face Of The Load Roller

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FORKS (FIGURE 169)

HOOK TYPE



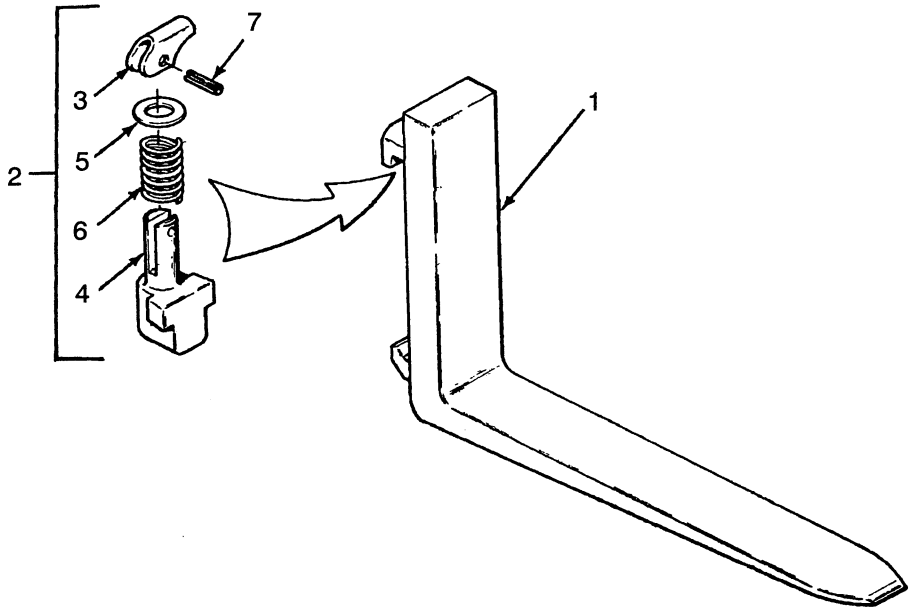
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER			FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	[a] H90-100XL	H90-110XL	H70-80XL & H90XLS	
		PART NO.				
1	Fork					
	36 inch	367419	..	..	..	2
	42 inch	367420	..	..	1338097	2
	47.5 inch	..	..	..	1338098	2
	48 inch	367421	..	1333001	..	2
	54 inch	367422	..	1333002	..	2
	60 inch	367423	..	1333003	..	2
	72 inch	367424	..	1333004	..	2
2	Latch	332378	332378	332378	332378	1
3	Pin	332377	332377	332377	332377	1
4	Spring	141852	141852	141852	141852	1
5	Washer	195436	195436	195436	195436	1
6	Washer	157001	157001	157001	157001	1
7	Rivet	141853	141853	141853	141853	1
8	Handle	141856	141856	141856	141856	1

[a] Attachment Carriage

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FORKS (FIGURE 170)

HOOK TYPE



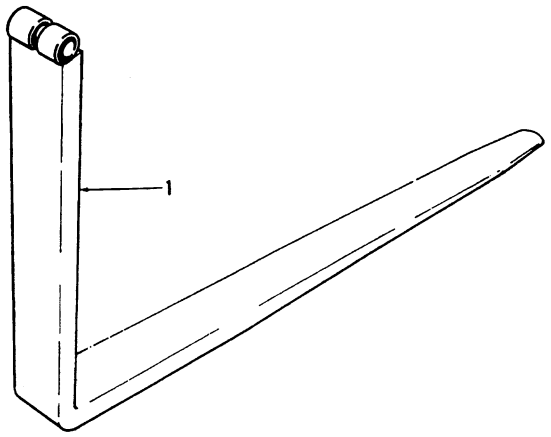
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER			FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	[a] H90-100XL	H90-110XL	H70-80XL & H90XLS	
		PART NO.				
1	Fork					
	36 inch	367419	..	..	..	2
	42 inch	367420	..	..	1338097	2
	47.5 inch	..	..	..	1338098	2
	48 inch	367421	1333046	1333001	..	2
	54 inch	367422	1333047	1333002	1332745	2
	60 inch	367423	1333048	1333003	..	2
	72 inch	367424	1333049	1333004	..	2
2	Latch	369796	369796	369797	369796	1
3	Handle	368706	368706	368706	368706	1
4	Pin	71153	71153	71153	71153	1
5	Washer	368707	368707	368707	368707	1
6	Spring	368705	368705	368705	368705	1
7	Pin	368703	368703	368703	368703	1

[a] Attachment Carriage

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FORKS (FIGURE 171)

PIN TYPE



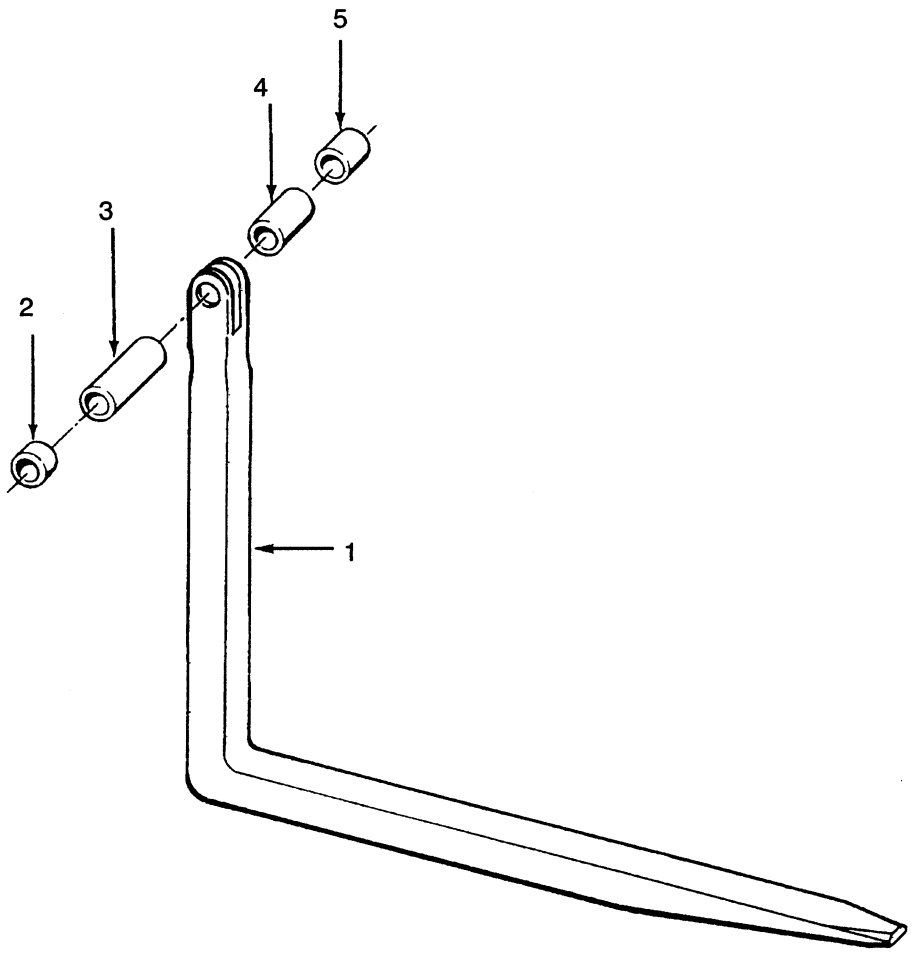
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER		FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	H90-100XL	H70-80XL & H90XLS	
		PART NO.			
1	Fork				
	42 inch	367425	..	1338100	2
	47.5 inch	..	..	1338101	2
	48 inch	367427	1333120	..	2
	54 inch	367430	1333107	1338102	2
	60 inch	367432	1333110	..	2
	72 inch	367435	1333113	..	2
	96 inch	..	1333117	..	2

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FORKS (FIGURE 172)

BLOCK TYPE

48 INCH CARRIAGE



REF		PART NO.	NAME OF PART	QTY
1		368719	Fork (38 in)	6
1		368720	Fork (45-5/8 in)	6
2	a	171489	Hose (1-5/8 in)	2
3	a	171488	Hose (4-1/4 in)	2
4	a	373453	Hose	2
5	a	373454	Hose	1

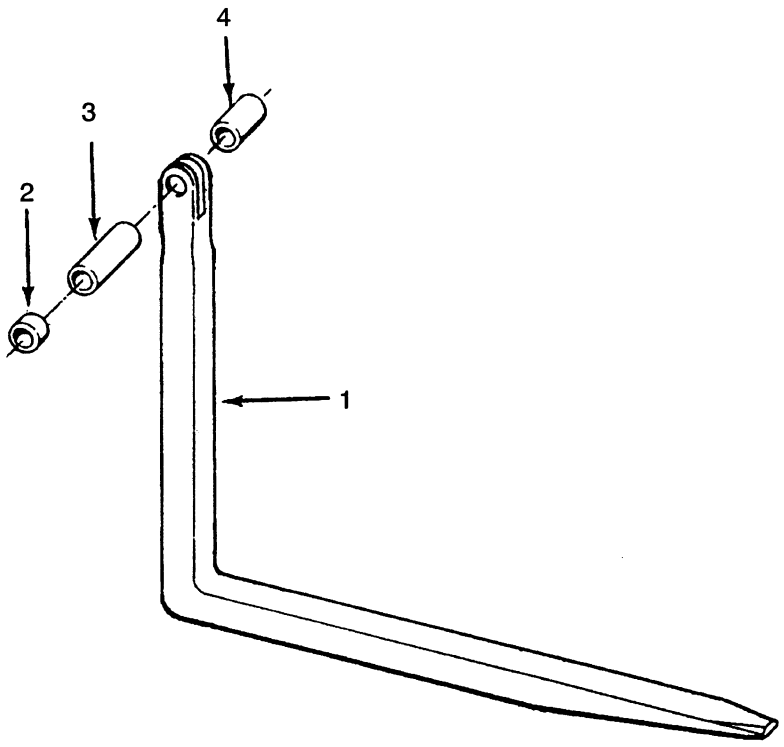
a Included In Spacer Kit 171504

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FORKS (FIGURE 173)

BLOCK TYPE

62 INCH CARRIAGE



REF	PART NO.	NAME OF PART	QTY
1	368719	Fork (38 in)	8
1	368720	Fork (45-5/8 in)	8
2	171489	Hose (1-5/8 in)	2
3	171490	Hose (3-1/4 in)	2
4	171488	Hose (4-1/4 in)	4

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THREE-STAGE FULL FREE LIFT MAST
(A511)

CARRIAGE (Figure 182)
THREE-STAGE FFL ..... Page 372

CARRIAGE (Figure 183)
THREE-STAGE FFL
H90-100XL ATTACHMENT ..... Page 374

FORKS (Figure 184)
HOOK TYPE ..... Page 376

FORKS (Figure 185)
HOOK TYPE ..... Page 377

FORKS (Figure 186)
PIN TYPE ..... Page 378

FORKS (Figure 187)
BLOCK TYPE
48 INCH CARRIAGE ..... Page 379

FORKS (Figure 188)
BLOCK TYPE
62 INCH CARRIAGE ..... Page 380

FREE LIFT (Figure 178)
THREE-STAGE FFL ..... Page 364

FREE-LIFT CYLINDER (Figure 180)
THREE-STAGE FFL ..... Page 368

HEADER HOSES (Figure 181)
THREE-STAGE FULL FREE LIFT MAST ..... Page 370

INNER MAST (Figure 176)
THREE-STAGE FFL ..... Page 360

INTERMEDIATE MAST (Figure 175)
THREE-STAGE FFL ..... Page 358

MAIN LIFT (Figure 177)
THREE-STAGE FFL ..... Page 362

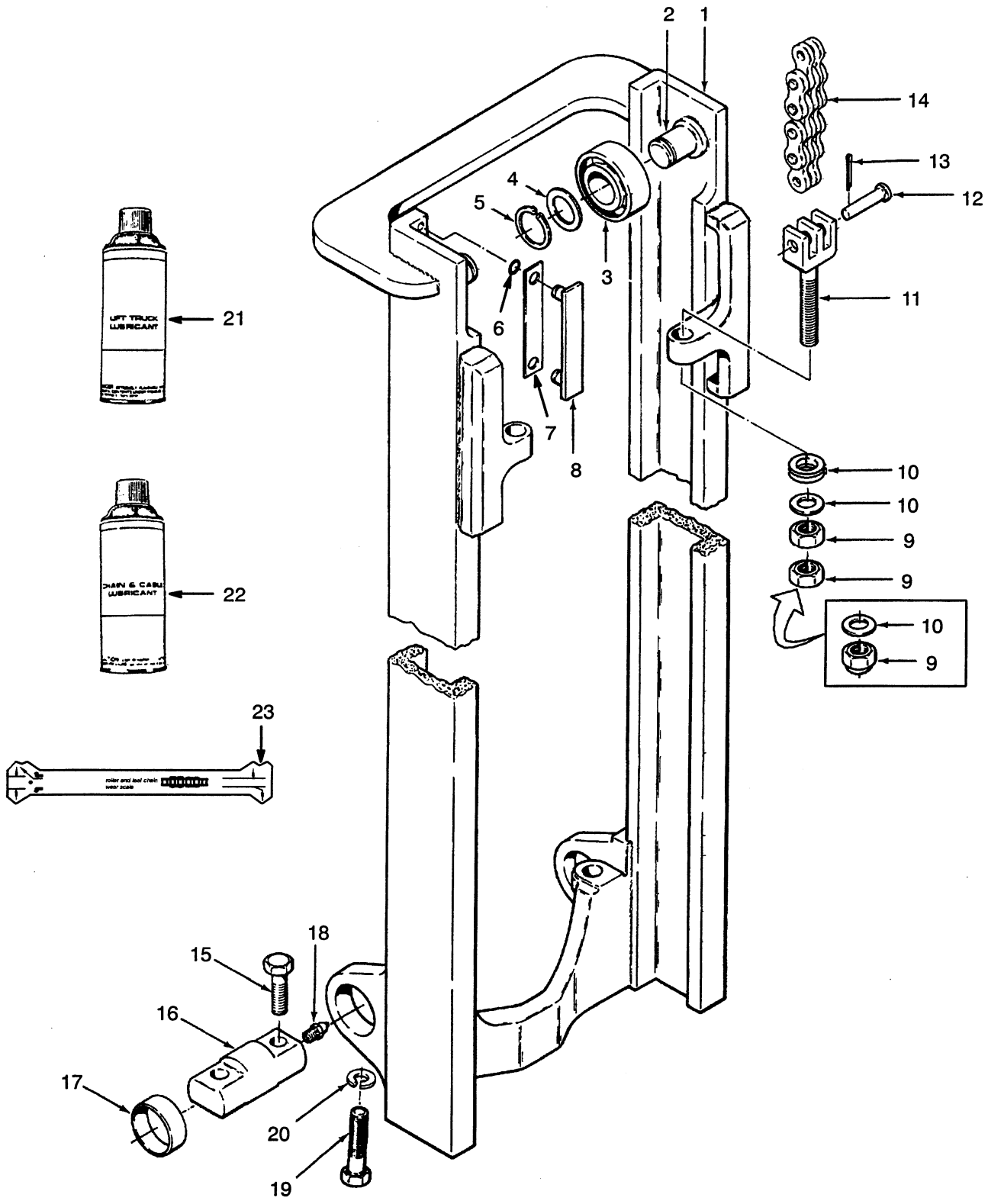
MAIN-LIFT CYLINDER (Figure 179)
THREE-STAGE FFL ..... Page 366

OUTER MAST (Figure 174)
THREE-STAGE FFL ..... Page 356

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OUTER MAST (FIGURE 174)

THREE-STAGE FFL



OUTER MAST

THREE-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		170.0 in	192.0 in	204.5 in	216.5 in	234.5 in
	MAST GROUP NUMBER	A511-4320	A511-4880	A511-5200	A511-5500	A511-5950
	Mast	348127	1317704	1317705	1317706	388419
1	Outer Mast	341160	383869	341161	341162	380641
14	Main Lift Chain	243974	182342	194607	191085	191089

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 in	182.0 in	194.5 in	206.5 in	224.0 in
	MAST GROUP NUMBER	A511-4060	A511-4620	A511-4940	A511-5240	A511-5690
	Mast	348130	1317708	1317709	1317710	388420
1	Outer Mast	341160	383869	341161	341162	380641
14	Main Lift Chain	357580	338647	152404	339934	347245

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

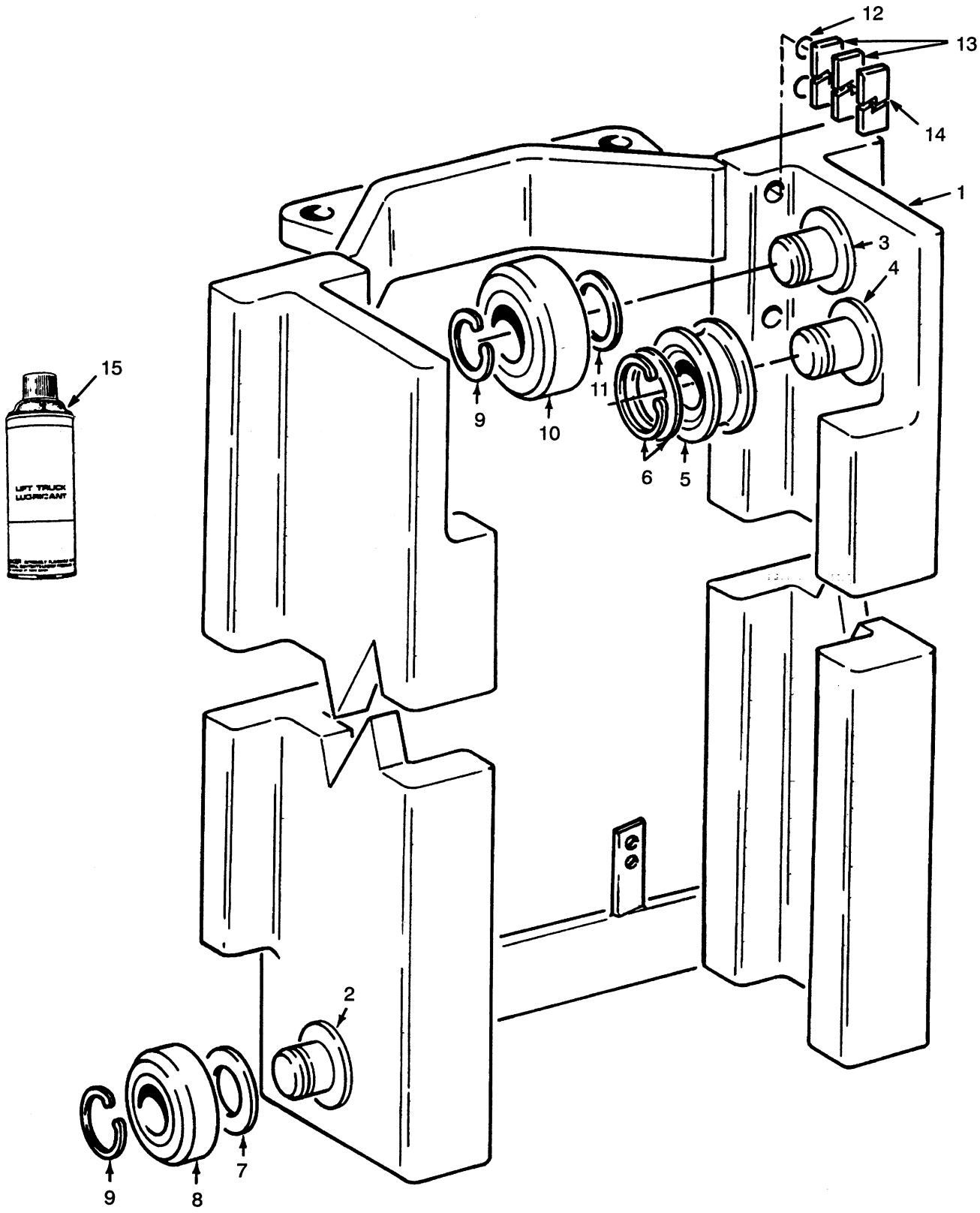
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Mast	1	1
1	a	....	Outer Mast	1	1
2		341144	Stub Shaft	2	2
3	b	1333649	Load Roller (A, Standard Size)	2	2
3	b	1343002	Load Roller (B, .030 in Oversize, Optional)	ARAR	
3	b	1343003	Load Roller (C, .060 in Oversize, Optional)		ARAR
4		126765	Shim (.020 in)	ARAR	
5		187489	Snap Ring	2	2
6		104506	O-Ring	4	4
7		161273	Shim (.020 in)	ARAR	
7		161272	Shim (0.007 in) (Optional)	ARAR	
8		104264	Bearing Strip	2	2
9		221717	Nut	4	4
10		1332704	Washer Set (Spherical)	2	2
11		1331990	Chain Anchor	2	..
11		1331991	Chain Anchor	..	2
12		327591	Pin	2	..
12		339932	Pin	..	2
13		15222	Cotter Pin	2	2
14	a	....	Chain	2	2
15		293698	Capscrew	4	4
16		352178	Pin	2	2
17		360569	Bushing	2	2
18		16001	Fitting	2	2
19		292589	Capscrew	2	2
20		296430	Washer	2	2
21		171350	Chain & Cable Lubricant	ARAR	
22		171351	Lubricant	ARAR	
23		599737	Chain Wear Scale	ARAR	

a See Charts Above
b The Letter Is Stamped On The Inside Face Of The Load Roller

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INTERMEDIATE MAST (FIGURE 175)

THREE-STAGE FFL



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INTERMEDIATE MAST
THREE-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		170.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	MAST GROUP NUMBER	**A511-4320**	**A511-4880**	**A511-5200**	**A511-5500**	**A511-5950**
	Mast	348127	1317704	1317705	1317706	388419
1	Intermediate Mast	1307618	1307619	1307620	1307621	381078

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	MAST GROUP NUMBER	**A511-4060**	**A511-4620**	**A511-4940**	**A511-5240**	**A511-5690**
	Mast	348130	1317708	1317709	1317710	388420
1	Intermediate Mast	1307618	1307619	1307620	1307621	381078

REF		PART NO.	NAME OF PART	QTY
	a	....	Mast	1
1	a	....	Intermediate Mast	1
2		341144	Stub Shaft	2
3		332051	Stub Shaft	2
4		332052	Stub Shaft	2
5		339927	Chain Sheave	2
6		304526	Snap Ring	2
6		335907	Washer	2
7		126765	Shim (.020 in)	AR
8	b	1333649	Load Roller (A, Standard Size)	2
8	b	1343002	Load Roller (B, 0.030 in Oversize, Optional)	AR
8	b	1343003	Load Roller (C, 0.060 in Oversize, Optional)	AR
9		187489	Snap Ring	4
10	b	1333648	Load Roller (A, Standard Size)	2
10	b	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR
10	b	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR
11		126765	Shim (.020 in)	AR
12		104506	O-Ring	4
13		131716	Shim (0.020 in)	AR
13		131715	Shim (0.007 in) (Optional)	AR
14		215211	Bearing Strip	2
15		171351	Lubricant	AR

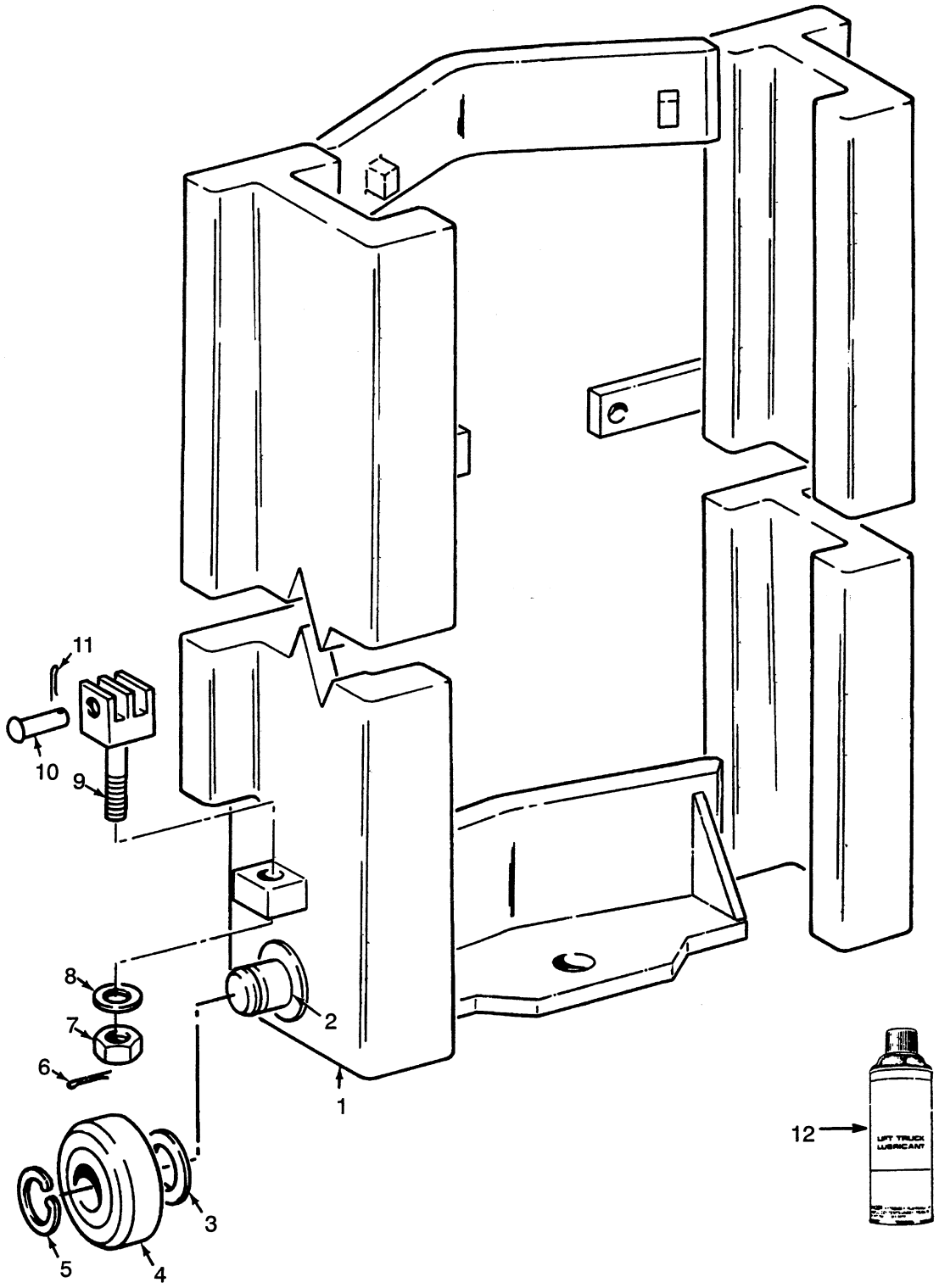
a See Charts Above

b The Letter Is Stamped On The Inside Face Of The Load Roller

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INNER MAST (FIGURE 176)

THREE-STAGE FFL



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INNER MAST

THREE-STAGE FFL

H70-90XL & H90XLS

REF NO	REF NO	LIFT HEIGHT TO BOTTOM OF FORKS				
		170.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	MAST GROUP NUMBER	**A511-4320**	**A511-4880**	**A511-5200**	**A511-5500**	**A511-5950**
	Mast	348127	1317704	1317705	1317706	388419
1	Inner Mast	1301930	1317700	1317701	1317702	1301934

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	MAST GROUP NUMBER	**A511-4060**	**A511-4620**	**A511-4940**	**A511-5240**	**A511-5690**
	Mast	348130	1317708	1317709	1317710	388420
1	Inner Mast	1301930	1317700	1317701	1317702	1301934

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Mast	1	1
1	a	....	Inner Mast	1	1
2		318182	Stub Shaft	2	2
3		126765	Shim (0.020 in)	AR	AR
4	b	1333648	Load Roller (A, Standard Size)	2	2
4	b	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR	AR
4	b	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR	AR
5		187489	Snap Ring	2	2
6		15224	Cotter Pin	2	2
7		182377	Nut	2	2
8		182376	Base Ring	2	2
9		351666	Chain Anchor	2	..
9		351667	Chain Anchor	..	2
10		327591	Pin	2	..
10		339932	Pin	..	2
11		15222	Cotter Pin	2	2
12		171351	Lubricant	AR	AR

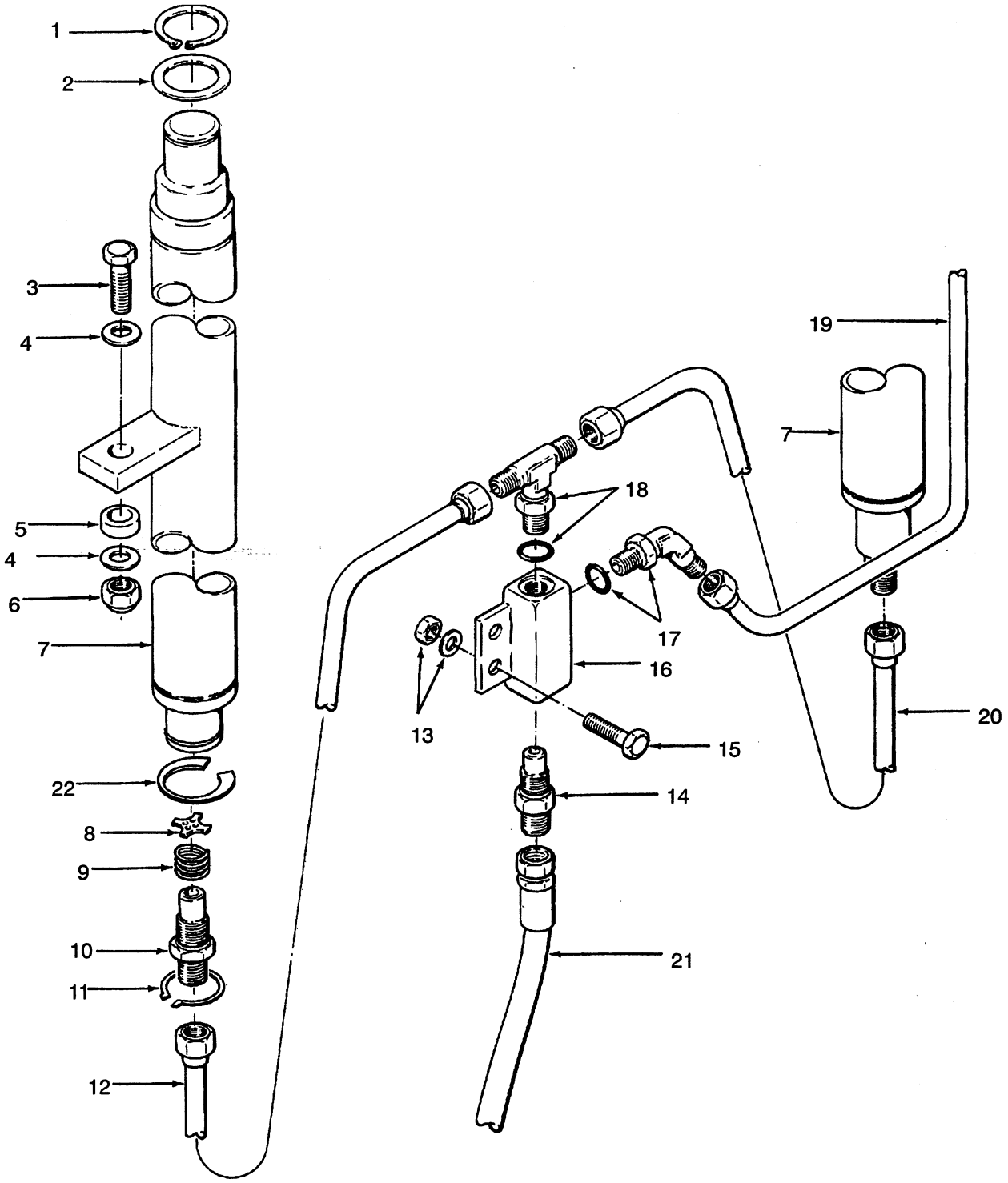
a See Charts Above

b The Letter Is Stamped On The Inside Face Of The Load Roller .

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MAIN LIFT (FIGURE 177)

THREE-STAGE FFL



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MAIN LIFT

THREE-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		170.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	MAST GROUP NUMBER	A511-4320	A511-4880	A511-5200	A511-5500	A511-5950
	Mast	348127	1317704	1317705	1317706	388419
19	Tube	357538	384598	357539	357540	388450

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	MAST GROUP NUMBER	A511-4060	A511-4620	A511-4940	A511-5240	A511-5690
	Mast	348130	1317708	1317709	1317710	388420
19	Tube	357538	384598	357539	357540	388450

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

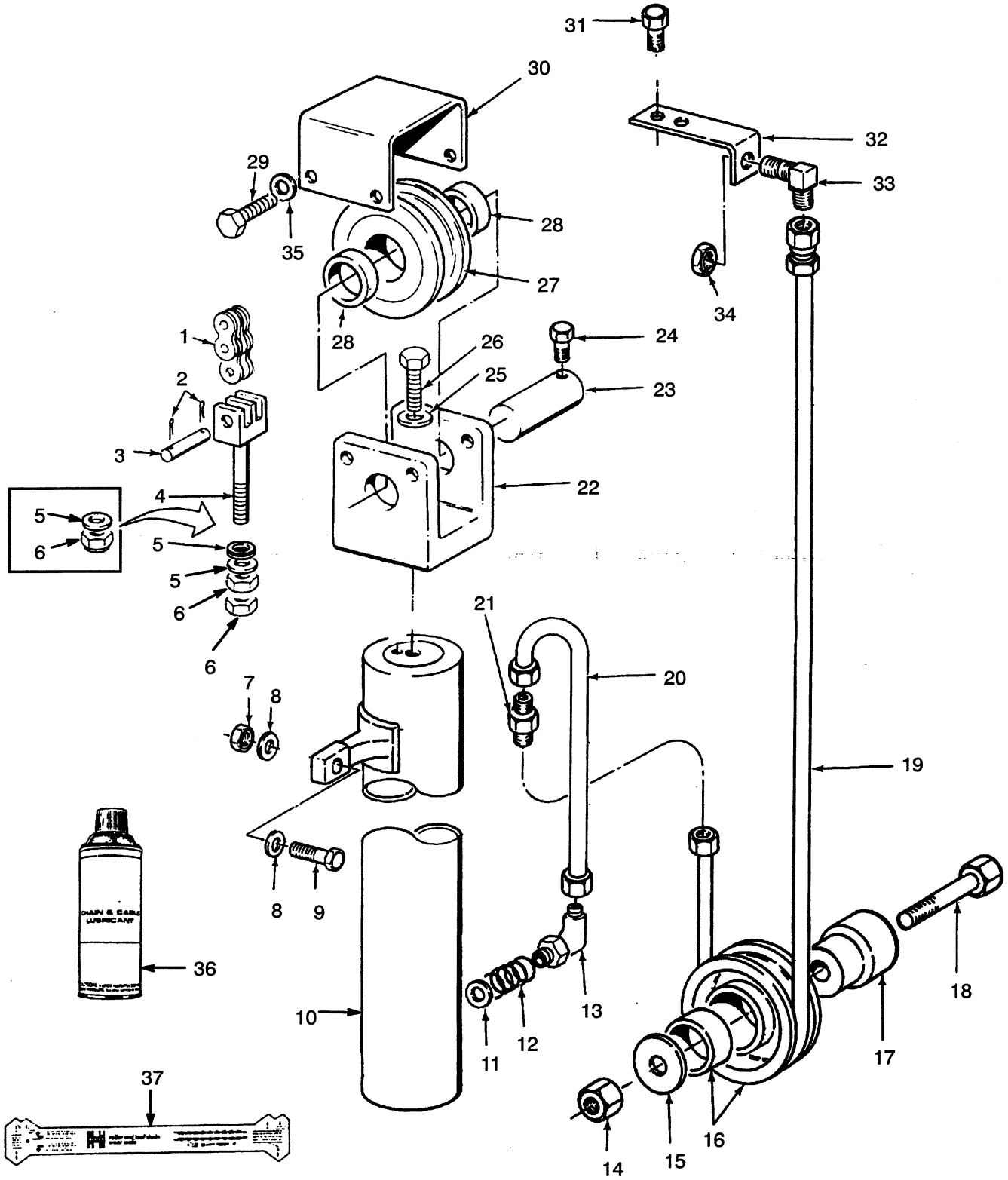
REF	PART NO.	NAME OF PART	QTY A	QTY B
a	....	Mast (See Charts Above)	1	1
1	304523	Snap Ring	2	2
2	332061	Washer	2	2
3	292589	Capscrew	2	2
4	296431	Washer	4	4
5	351565	Spacer	2	2
6	316829	Nut	2	2
7	....	Main Lift Cylinder ☞ Figure 179	2	2
8	373286	Washer	2	2
9	120938	Spring	2	2
10	184799	Fitting	2	2
11	351350	Snap Ring	2	2
12	373269	Tube, RH	1	1
13	316826	Nut	2	2
13	320159	Washer	2	2
14	315262	Control Valve	1	..
14	319891	Control Valve	..	1
15	136985	Capscrew	2	2
16	368221	Housing	1	1
17	222392	Fitting	1	1
17	16486	O-Ring	1	1
18	274518	Fitting	1	1
18	16484	O-Ring	1	1
19 a	....	Tube (See Charts)	1	1
20	373268	Tube, LH	1	1
21	385498	Hose	1	1
22	1344750	Shim (0 .75 mm)	ARAR	

a See Charts Above

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FREE LIFT (FIGURE 178)

THREE-STAGE FFL



FREE LIFT

THREE-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		70.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	MAST GROUP NUMBER	A511-4320	A511-4880	A511-5200	A511-5500	A511-5950
	Mast	348127	1317704	1317705	1317706	388419
1	Free-Lift Chain	182319	191081	182342	182331	182342
19	Hose	371372	384597	371373	371374	388449

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	MAST GROUP NUMBER	A511-4060	A511-4620	A511-4940	A511-5240	A511-5690
	Mast	348130	1317708	1317709	1317710	388420
1	Free-Lift Chain	339897	338646	366106	338646	366106
19	Hose	371372	384597	371373	371374	388449

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

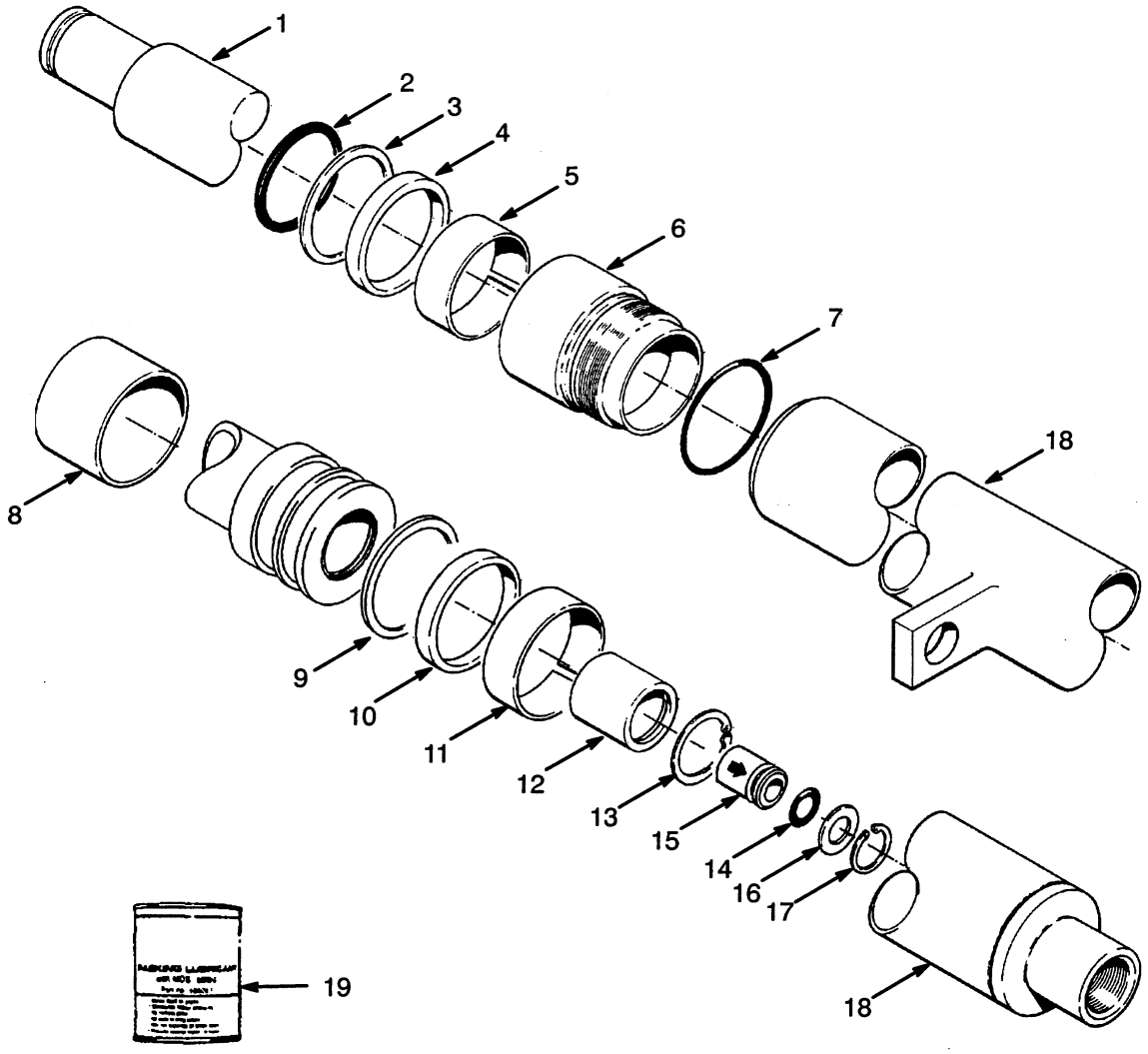
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Mast	1	1
1	a	....	Free-Lift Chain	2	2
2		15222	Cotter Pin	2	2
3		327591	Pin	2	..
3		339932	Pin	..	2
4		1331990	Chain Anchor	2	..
4		1331991	Chain Anchor	..	2
5		1332704	Washer Set (Spherical)	2	2
6		221717	Nut	4	4
7		316829	Nut	2	2
8		296431	Washer	4	4
9		292589	Capscrew	2	2
10		....	Free-Lift Cylinder	1	1
			☞ Figure 180		
11		385499	Washer	1	1
12		111975	Spring	1	1
13		318297	Fitting	1	1
14		316826	Nut	1	1
15		86936	Flatwasher	1	1
16		341246	Sheave	1	1
16		136045	Bushing	1	1
17		357572	Stub Shaft	1	1
18		292517	Capscrew	1	1
19	a	....	Hose	1	1
20		357549	Tube	1	1
21		318260	Fitting	1	1
22		368171	Crosshead	1	1
23		318139	Pin	1	1
24		302105	Screw	1	1
25		292685	Lockwasher	2	2
26		292562	Capscrew	2	2
27		355044	Sheave	1	1
27		126764	Bearing	2	2
27		40667	Snap Ring	2	2
28		297573	Spacer	2	2
29		292514	Screw	4	4
30		357573	Guard	1	1
31		351668	Screw	2	2
32		356390	Bracket	1	1
33		318251	Fitting	1	1
34		14765	Nut	1	1
35		292682	Washer	4	4
36		171350	Chain & Cable Lubricant	ARAR	
37		599737	Chain Wear Scale	ARAR	

a See Charts Above

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MAIN-LIFT CYLINDER (FIGURE 179)

THREE-STAGE FFL



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MAIN-LIFT CYLINDER
THREE-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		170.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	Main-Lift Cylinder	1331319	1331322	1331320	1331321	1331323
1	Rod/Piston	351650	384587	351651	351652	388429
8	Spacer	....	351673	351673	351673	381113
18	Shell	351656	384585	351657	351658	388425

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	Main-Lift Cylinder	1332558	1332561	1332559	1332560	1332562
1	Rod/Piston	351653	384559	351654	351655	388430
8	Spacer	351674	351675	351675	351675	381114
18	Shell	351659	384557	351660	351661	388426

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

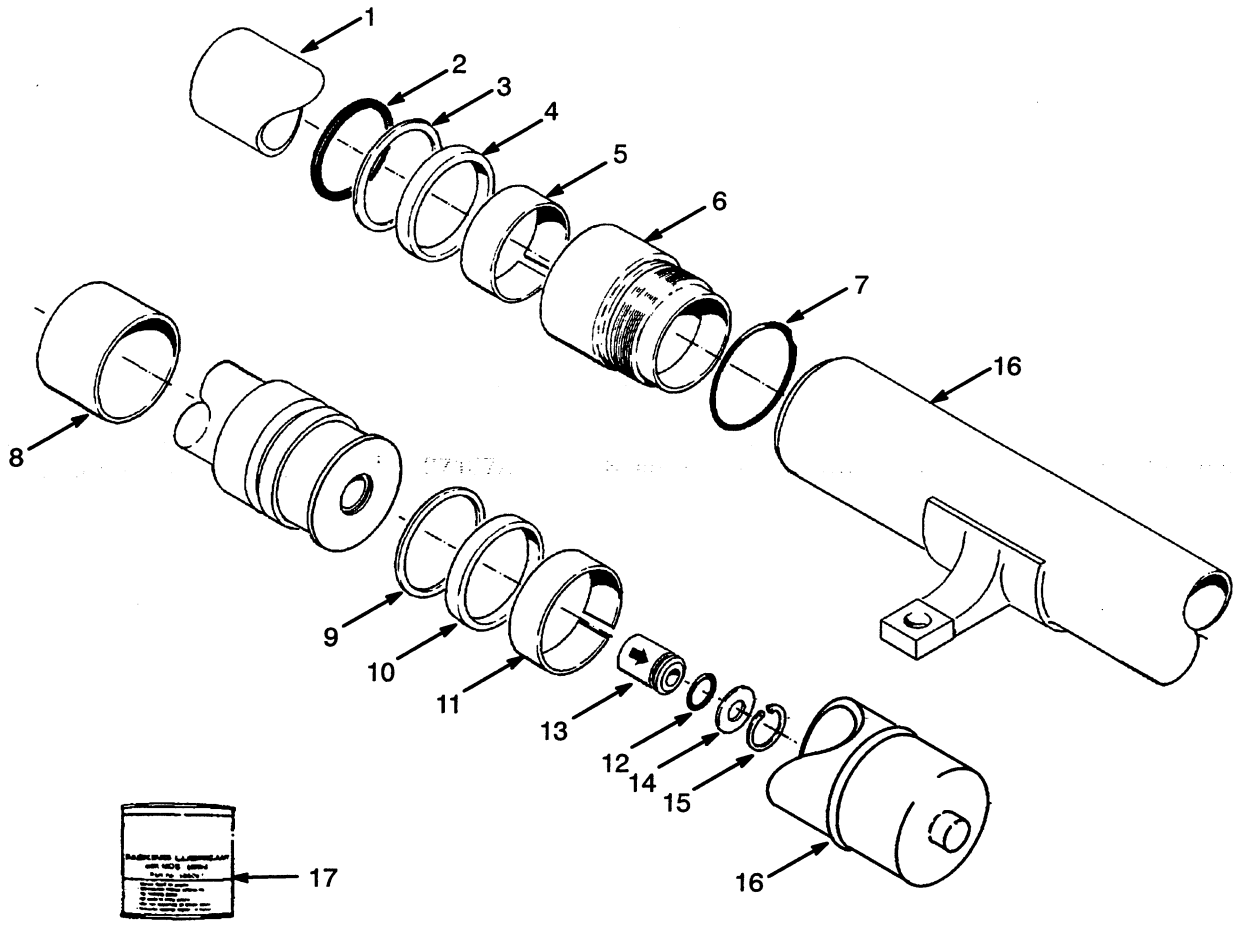
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Main-Lift Cylinder	2	2
1	a	....	Rod	1	1
2	b	1310371	Wiper	1	..
2	c	1329784	Wiper	..	1
3	b	638249	Back-Up Ring	1	..
3	c	638250	Back-Up Ring	..	1
4	b	270077	Seal	1	..
4	c	201829	Seal	..	1
5	b	215425	Wear Ring	1	..
5	c	215301	Wear Ring	..	1
6		1329785	Retainer	1	..
6		1329786	Retainer	..	1
7	b	154375	O-Ring	1	..
7	c	15879	O-Ring	..	1
8	a	....	Spacer	1	1
9	b	638249	Back-Up Ring	1	..
9	c	351532	Back-Up	..	1
10	b	270077	Seal	1	..
10	c	358300	Seal	..	1
11	b	297532	Wear Ring	1	..
11	c	351531	Wear Ring	..	1
12		1310339	Piston	1	1
13	bc	187388	Snap Ring	1	1
14	bc	15860	O-Ring	1	1
15		297530	Check Valve	1	1
16		297531	Washer	1	1
17	bc	58916	Snap Ring	1	1
18	a	....	Shell	1	1
19		186061	Packing Lubricant	ARAR	

a See Charts Above
b Included In Seal Kit 1332563
c Included In Seal Kit 1332564

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FREE-LIFT CYLINDER (FIGURE 180)

THREE-STAGE FFL



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FREE-LIFT CYLINDER
THREE-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		170.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	Free-Lift Cylinder	351626	1317695	1317696	1317697	388434
1	Rod/Piston	351593	384590	351594	351622	388436
16	Shell	351614	1317687	1317683	1317684	388440

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	Free-Lift Cylinder	351637	1317691	1317692	1317693	388435
1	Rod/Piston	351633	384563	351634	351635	388437
16	Shell	360293	1317689	1317685	1317686	388441

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

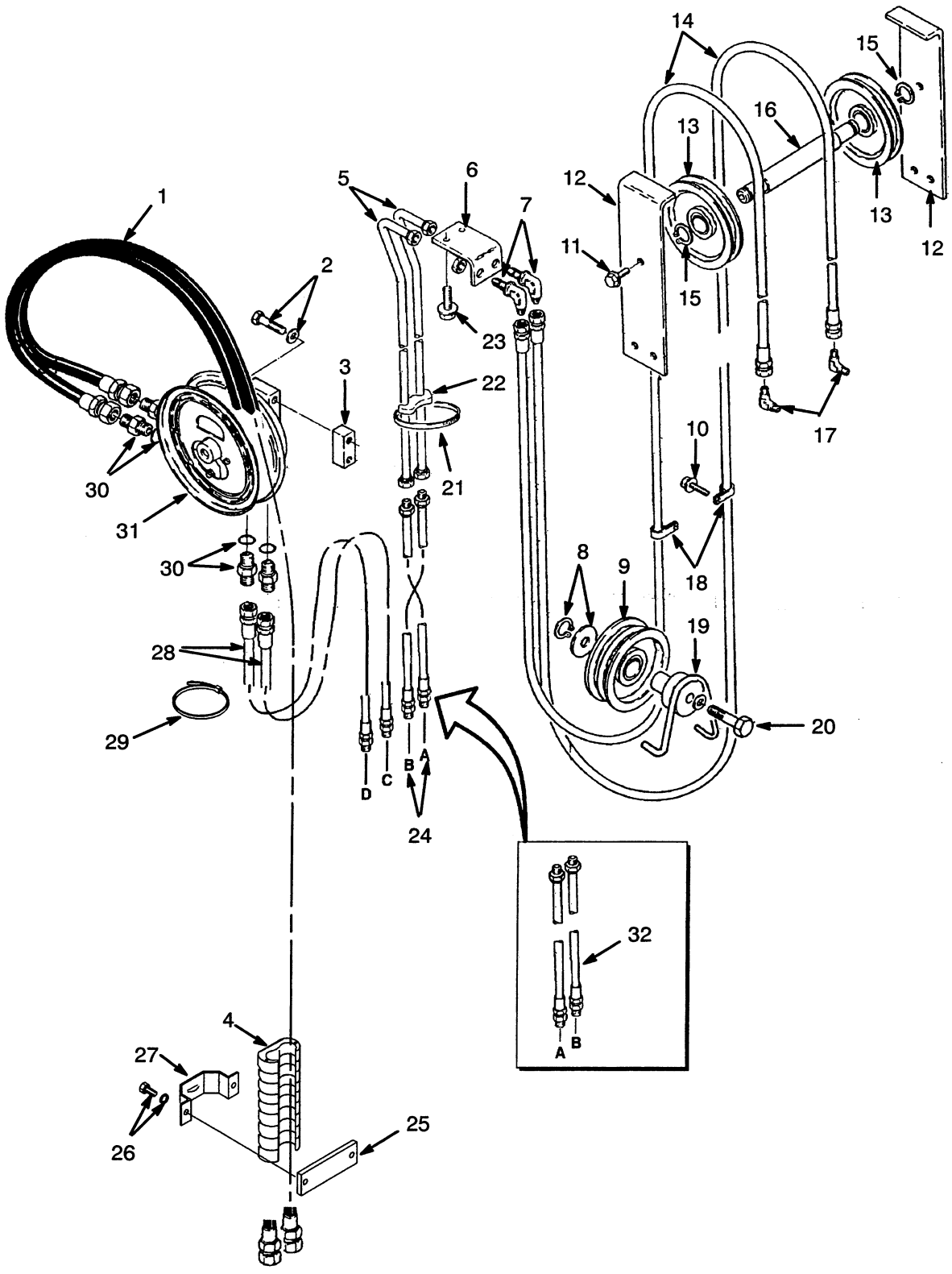
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Free-Lift Cylinder	2	2
1	a	....	Rod/Piston	1	1
2	b	636858	Wiper Ring	1	1
3	bc	638292	Back-Up Ring	1	1
4	bc	637161	Seal	1	1
5	bc	215345	Wear Ring	1	1
6		351618	Retainer	1	..
6		351619	Retainer	..	1
7	b	46629	O-Ring	1	..
7	c	15885	O-Ring	..	1
8		357598	Spacer	..	1
9	b	638253	Back-Up Ring	1	..
9	c	638253	Back-Up Ring	..	1
10	b	637162	Seal	1	..
10	c	637164	Seal	..	1
11	b	636950	Wear Ring	1	..
11	c	636952	Wear Ring	..	1
12	bc	39348	O-Ring	1	1
13		257913	Valve	1	1
14		637635	Washer	1	1
15		187388	Snap Ring	1	1
16	a	....	Shell	1	1
17		186061	Packing Lubricant	ARAR	

a See Charts Above
b Included In Seal Kit 1302768
c Included In Seal Kit 1302767

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HEADER HOSES (FIGURE 181)

THREE-STAGE FULL FREE LIFT MAST



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for service procedures

11/2/99

HEADER HOSES

THREE-STAGE FULL FREE LIFT MAST

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		70.0 inch	192.0 inch	204.5 inch	216.5 inch	234.5 inch
	MAST GROUP NUMBER	A511-4320	A511-4880	A511-5200	A511-5500	A511-5950
5	Tube	357532	388466	357533	357534	388468
14	Hose	389906	389907	389908	389909	389910
28	Hose	360444	388470	367157	367158	388471

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS				
		160.0 inch	182.0 inch	194.5 inch	206.5 inch	224.0 inch
	MAST GROUP NUMBER	A511-4060	A511-4620	A511-4940	A511-5240	A511-5690
5	Tube	384570	388467	384571	384572	388469
14	Hose	389906	389907	389908	389909	389910
28	Hose	360444	388470	367157	367158	388471

KEY:
A: Three Function Control Valve
B: Four Function Control Valve

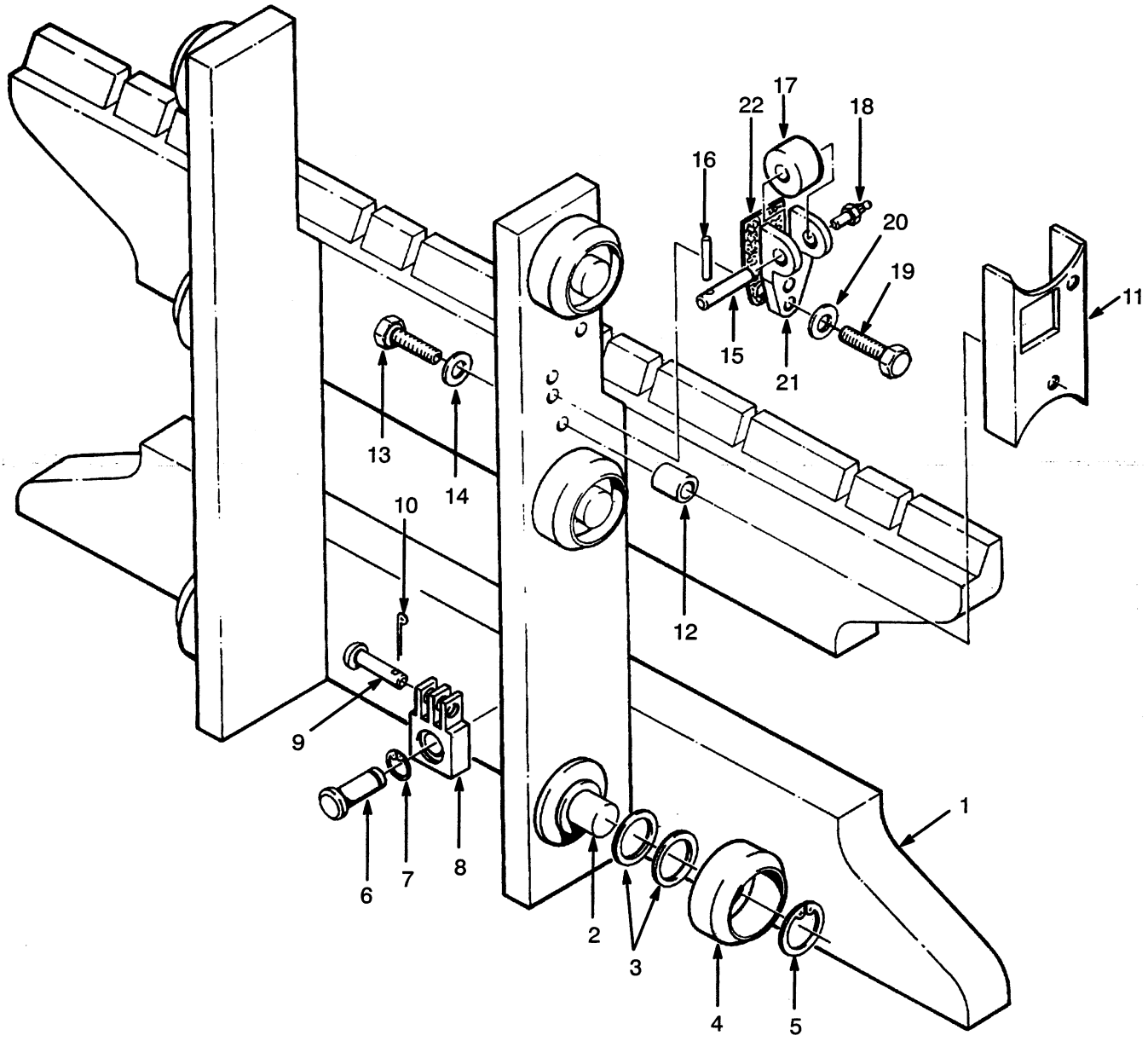
REF		PART NO.	NAME OF PART	QTY A	QTY B
1		367162	Hose	..	1
1	a	386647	Hose	..	1
2		292535	Capscrew	..	2
2		320161	Washer	..	2
3		1307623	Plate	..	1
4		358286	Strain Relief	..	1
5	b	....	Tube	2	2
6		388453	Plate	1	1
7		16459	Fitting	2	2
8		58902	Snap Ring	1	1
8		320157	Flat Washer	1	1
9		1332705	Sheave Assembly	1	1
9		332057	Bushing	1	1
10		351668	Screw	2	2
11		351668	Screw	2	2
12		368173	Plate	2	2
13		297647	Sheave	2	2
14	b	....	Hose	2	2
15		248212	Snap Ring	2	2
16		368172	Shaft	1	1
17		16458	Fitting	2	2
18		101625	Clamp	2	2
19		1307643	Stub Shaft	1	1
20		136985	Capscrew	1	1
21		78286	Clamp	2	2
22		340054	Spacer	2	2
23		351668	Screw	2	2
24		1301925	Hose	..	2
25		356431	Plate	1	..
25		1312874	Plate	..	1
26		16870	Capscrew	..	2
26		15156	Lockwasher	..	2
27		358287	Bracket	..	1
28	b	....	Hose	..	2
29		273775	Clamp	..	2
30		16541	Fitting	..	4
30		16484	O-Ring	..	1
31		358289	Hose Reel	..	1
31		1390556	Hose Reel (Optional)	..	1
31		672563	Seal Kit	..	1
32		1301925	Hose	2	..

a 234.5 inch & 224.0 inch Lifts
b See Chart Above

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CARRIAGE (FIGURE 182)

THREE-STAGE FFL



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CARRIAGE

THREE-STAGE FFL

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

REF		PART NO.	NAME OF PART	QTY A	QTY B
		1379241	Carriage (48 in)	1	..
		1379245	Carriage (60 in)	1	..
		1313821	Carriage (48 in)	..	1
		1317723	Carriage (60 in)	..	1
1		1379242	Frame (48 in)	1	..
1		1379246	Frame (60 in)	1	..
1		1313819	Frame (48 in)	..	1
1		1312126	Frame (60 in)	..	1
2		341144	Stub Shaft	6	6
3		126765	Shim (0.020 in)	AR	AR
4	a	1333648	Load Roller (A, Standard Size)	6	6
4	a	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR	AR
4	a	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR	AR
5		187489	Snap Ring	6	6
6		320327	Pin	2	2
7		131358	Snap Ring	2	2
8		357579	Chain Anchor	2	..
8		341558	Chain Anchor	..	2
9		327591	Pin	2	..
9		339932	Pin	..	2
10		15222	Cotter Pin	2	2
11		319322	Guard, RH	1	1
11		319323	Guard, LH	1	1
12		317292	Spacer	4	4
13		18518	Capscrew	4	4
14		15155	Lockwasher	4	4
15		244009	Pin	..	2
16		66333	Spring Pin	..	2
17		244005	Roller	..	2
18		16001	Grease Fitting	..	2
19		18518	Capscrew, LH	..	3
19		18516	Capscrew, RH	..	1
20		15155	Lockwasher	..	4
21		244008	Bracket	..	2
22		366116	Spacer	..	2

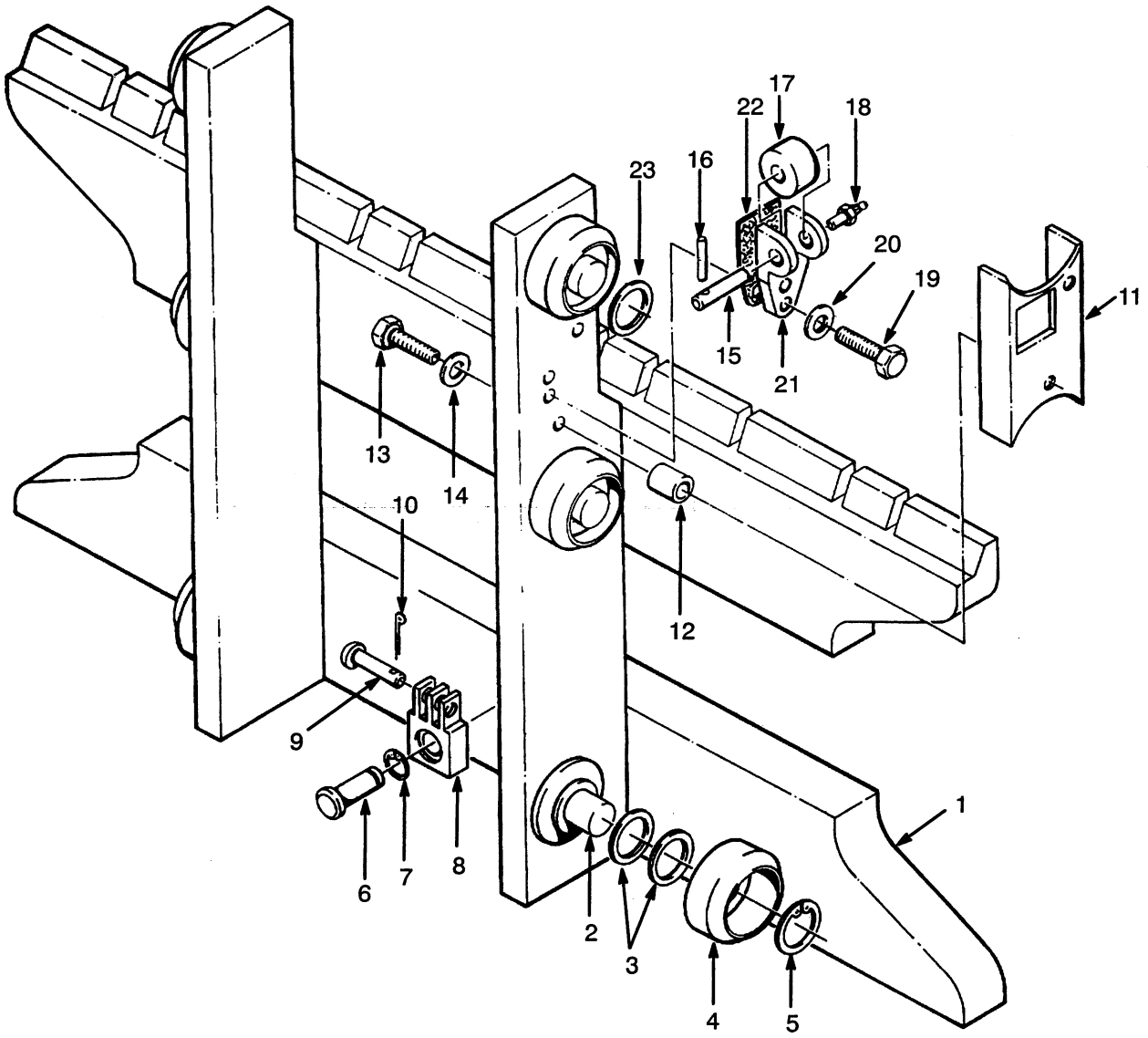
[a] The Letter Is Stamped On The Inside Face Of The Load Roller

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CARRIAGE (FIGURE 183)

THREE-STAGE FFL

H90-100XL ATTACHMENT



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CARRIAGE

THREE-STAGE FFL

H90-100XL ATTACHMENT

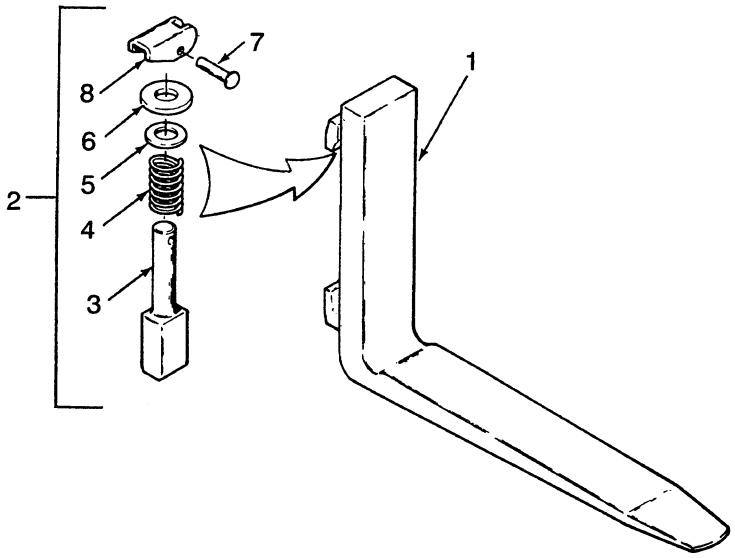
REF		PART NO.	NAME OF PART	QTY
		1379247	Carriage (42 in)	1
1		1379248	Frame (42 in)	1
2		341144	Stub Shaft	6
3		126765	Shim (0.020 in)	AR
4	a	1333648	Load Roller (A, Standard Size)	6
4	a	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR
4	a	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR
5		187489	Snap Ring	6
6		320327	Pin	2
7		131358	Snap Ring	2
8		341558	Chain Anchor	2
9		339932	Pin	2
10		15222	Cotter Pin	2
11		319322	Guard, RH	1
11		319323	Guard, LH	1
12		317292	Spacer	4
13		18518	Capscrew	4
14		15155	Lockwasher	4
15		244009	Pin	2
16		66333	Spring Pin	2
17		244005	Roller	2
18		16001	Grease Fitting	2
19		292528	Capscrew	4
20		292683	Lockwasher	4
21		244008	Roller Bracket	2
22		192424	Shim (0.030 in)	AR
22		192425	Shim (0.062 in)	AR
23		366116	Spacer	2

a The Letter Is Stamped On The Inside Face Of The Load Roller .

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FORKS (FIGURE 184)

HOOK TYPE



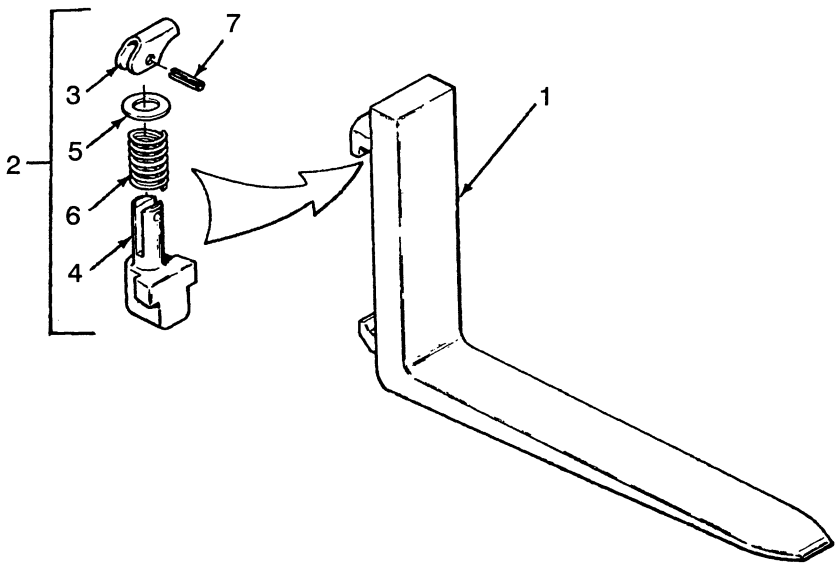
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER			FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	[a] H90-100XL	H90-110XL	H70-80XL & H90XLS	
		PART NO.				
1	Fork					
	36 inch	367419	..	..	..	2
	42 inch	367420	..	..	1338097	2
	47.5 inch	..	..	..	1338098	2
	48 inch	367421	..	1333001	..	2
	54 inch	367422	..	1333002	..	2
	60 inch	367423	..	1333003	..	2
	72 inch	367424	..	1333004	..	2
2	Latch	332378	332378	332378	332378	1
3	Pin	332377	332377	332377	332377	1
4	Spring	141852	141852	141852	141852	1
5	Washer	195436	195436	195436	195436	1
6	Washer	157001	157001	157001	157001	1
7	Rivet	141853	141853	141853	141853	1
8	Handle	141856	141856	141856	141856	1

[a] Attachment Carriage

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FORKS (FIGURE 185)

HOOK TYPE



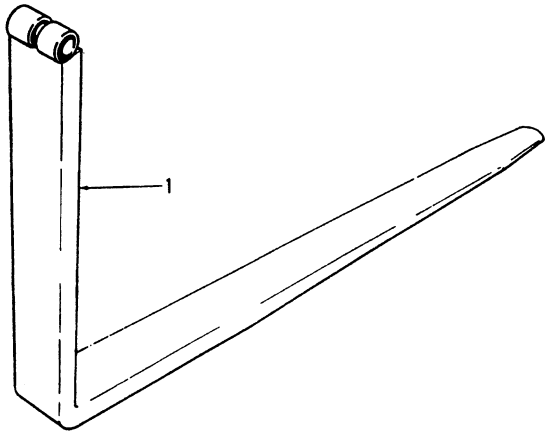
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER			FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	[a] H90-100XL	H90-110XL	H70-80XL & H90XLS	
		PART NO.				
1	Fork					
	36 inch	367419	..	..	..	2
	42 inch	367420	..	..	1338097	2
	47.5 inch	..	..	..	1338098	2
	48 inch	367421	1333046	1333001	..	2
	54 inch	367422	1333047	1333002	1332745	2
	60 inch	367423	1333048	1333003	..	2
	72 inch	367424	1333049	1333004	..	2
2	Latch	369796	369796	369797	369796	1
3	Handle	368706	368706	368706	368706	1
4	Pin	71153	71153	71153	71153	1
5	Washer	368707	368707	368707	368707	1
6	Spring	368705	368705	368705	368705	1
7	Pin	368703	368703	368703	368703	1

[a] Attachment Carriage

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FORKS (FIGURE 186)

PIN TYPE



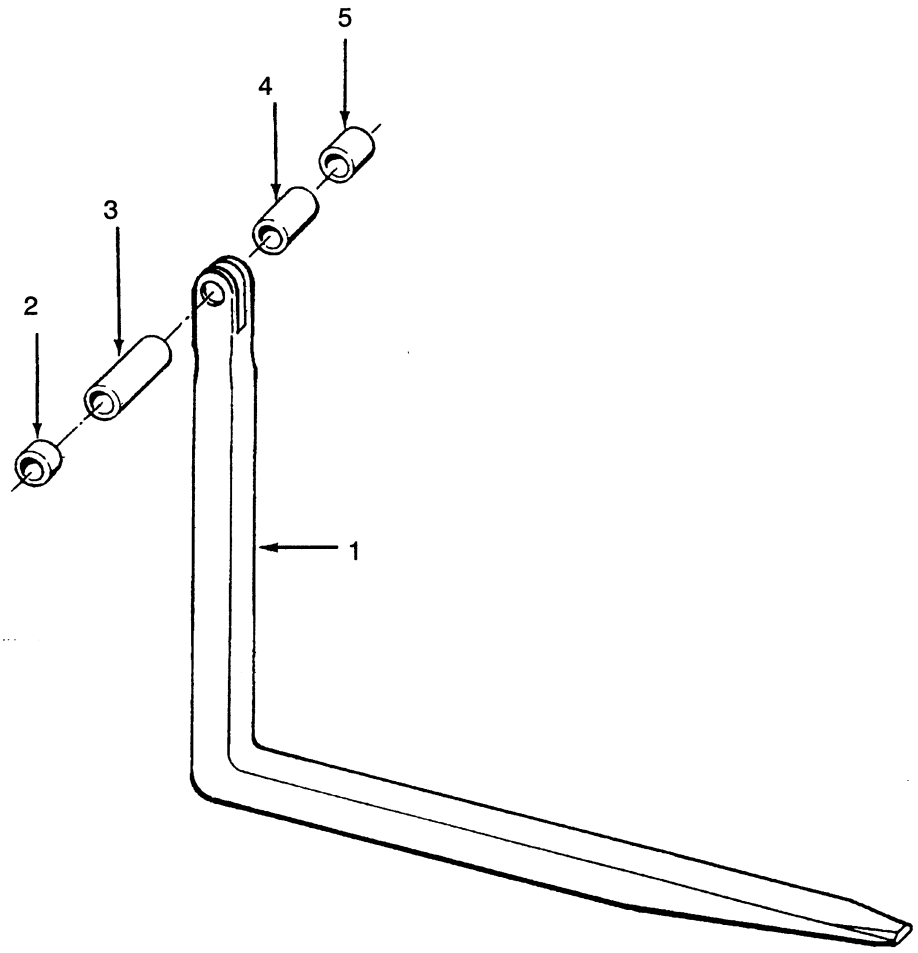
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER		FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	H90-100XL	H70-80XL & H90XLS	
		PART NO.			
1	Fork				
	42 inch	367425	..	1338100	2
	47.5 inch	..	..	1338101	2
	48 inch	367427	1333120	..	2
	54 inch	367430	1333107	1338102	2
	60 inch	367432	1333110	..	2
	72 inch	367435	1333113	..	2
	96 inch	..	1333117	..	2

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FORKS (FIGURE 187)

BLOCK TYPE

48 INCH CARRIAGE



REF		PART NO.	NAME OF PART	QTY
1		368719	Fork (38 in)	6
1		368720	Fork (45-5/8 in)	6
2	a	171489	Hose (1-5/8 in)	2
3	a	171488	Hose (4-1/4 in)	2
4	a	373453	Hose	2
5	a	373454	Hose	1

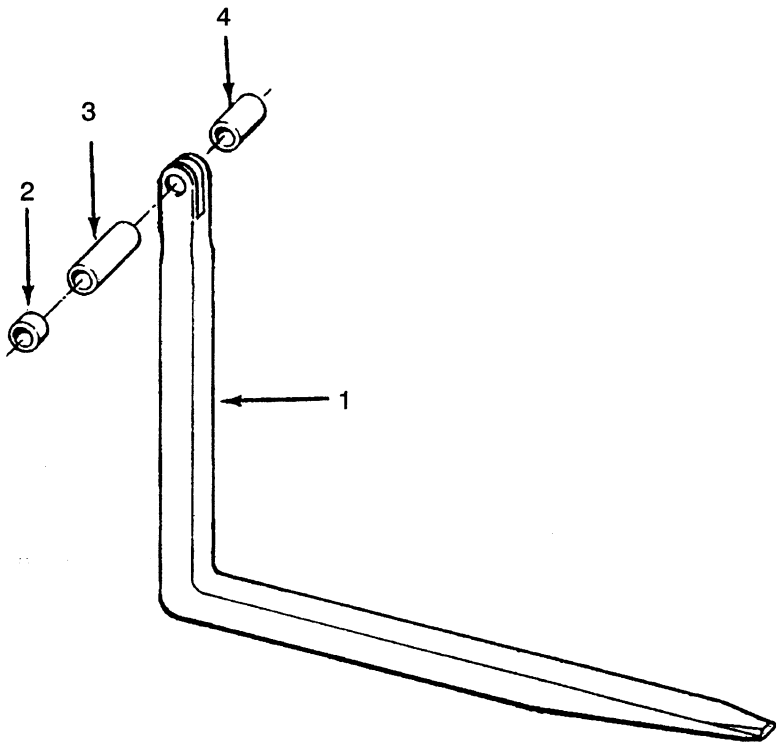
a Included In Spacer Kit 171504

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FORKS (FIGURE 188)

BLOCK TYPE

62 INCH CARRIAGE



REF	PART NO.	NAME OF PART	QTY
1	368719	Fork (38 in)	8
1	368720	Fork (45-5/8 in)	8
2	171489	Hose (1-5/8 in)	2
3	171490	Hose (3-1/4 in)	2
4	171488	Hose (4-1/4 in)	4

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TWO-STAGE FULL FREE LIFT MAST
(A512)

CARRIAGE (Figure 197)
TWO-STAGE FFL ..... Page 402

CARRIAGE (Figure 198)
TWO-STAGE FFL
H90-100XL ATTACHMENT ..... Page 404

FORKS (Figure 199)
HOOK TYPE ..... Page 406

FORKS (Figure 200)
HOOK TYPE ..... Page 407

FORKS (Figure 201)
PIN TYPE ..... Page 408

FORKS (Figure 202)
BLOCK TYPE
48 INCH CARRIAGE ..... Page 409

FORKS (Figure 203)
BLOCK TYPE
62 INCH CARRIAGE ..... Page 410

FREE LIFT (Figure 192)
TWO-STAGE FFL ..... Page 388

FREE-LIFT CYLINDER (Figure 195)
TWO-STAGE FFL ..... Page 396

HEADER HOSES (Figure 196)
TWO-STAGE FULL FREE LIFT MAST ..... Page 398

INNER MAST (Figure 190)
TWO-STAGE FFL ..... Page 384

MAIN LIFT CYLINDER (Figure 193)
TWO-STAGE FFL
LAST USED ON S/N PENDING PER ECN 85020-76 ..... Page 390

MAIN LIFT CYLINDER (Figure 194)
VISTA 2 STAGE-FFL
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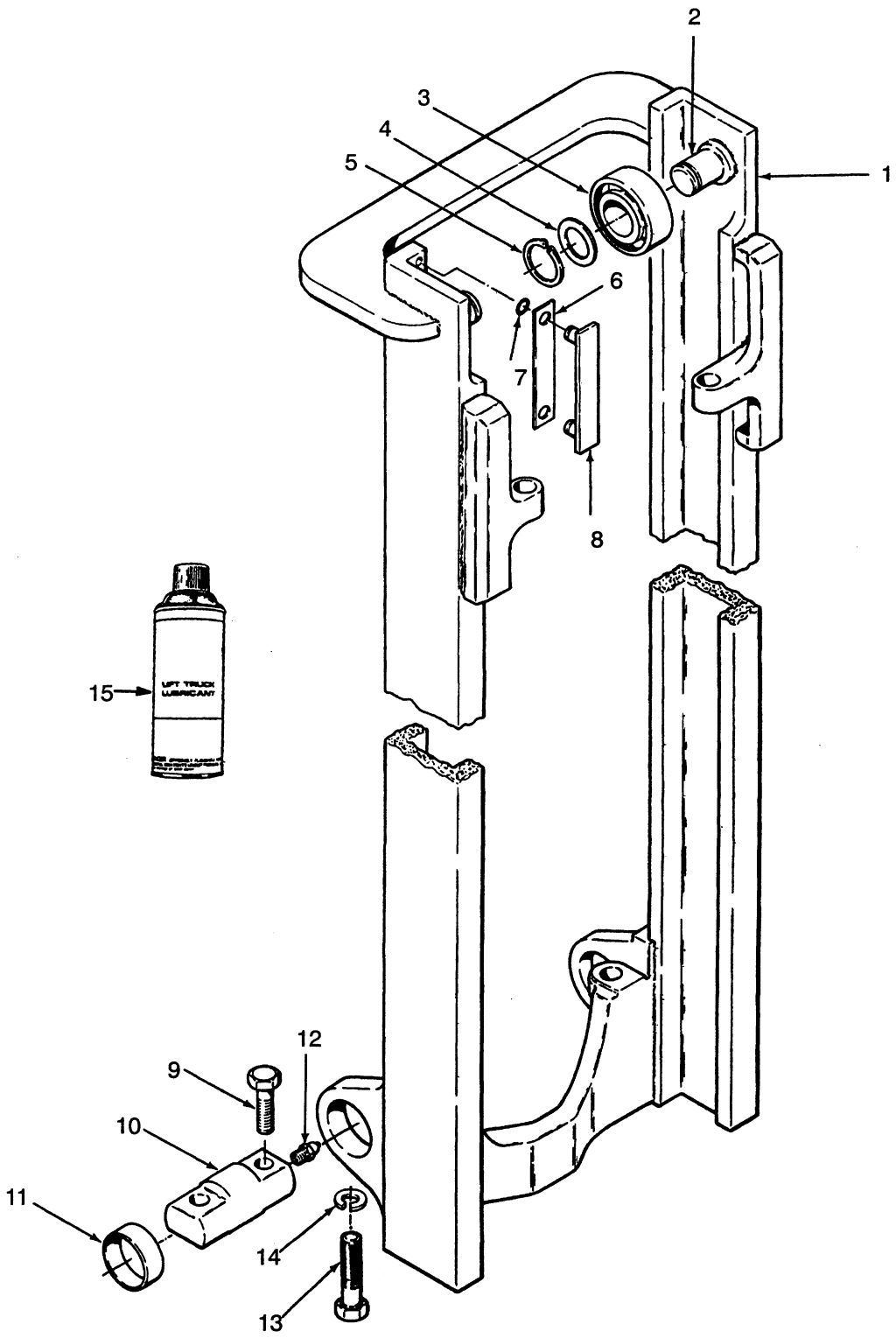
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TWO-STAGE FFL ..... Page 386

OUTER MAST (Figure 189)
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OUTER MAST (FIGURE 189)

TWO-STAGE FFL



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OUTER MAST

TWO-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	MAST GROUP NUMBER	**A512-3020**	**A512-3650**
	Mast	1306513	1306514
1	Outer Mast	341157	341158

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	MAST GROUP NUMBER	**A512-2760**	**A512-3390**
	Mast	1306515	1306516
1	Outer Mast	341157	341158

REF		PART NO.	NAME OF PART	QTY
	a	....	Mast	1
1	a	....	Outer Mast	1
2		341144	Stub Shaft	2
3	b	1333649	Load Roller (A, Standard Size)	2
3	b	1343002	Load Roller (B, 0.030 in Oversize, Optional)	AR
3	b	1343003	Load Roller (C, 0.060 in Oversize, Optional)	AR
4		126765	Shim (0.020 in)	AR
5		187489	Snap Ring	2
6		161273	Shim (0.020 in)	AR
6		161272	Shim (0.007 in) (Optional)	AR
7		104506	O-Ring	4
8		104264	Bearing Strip	2
9		293698	Capscrew	2
10		352178	Pin	2
11		360569	Bushing	2
12		16001	Fitting	2
13		292589	Capscrew	2
14		296430	Washer	2
15		171351	Lubricant	AR

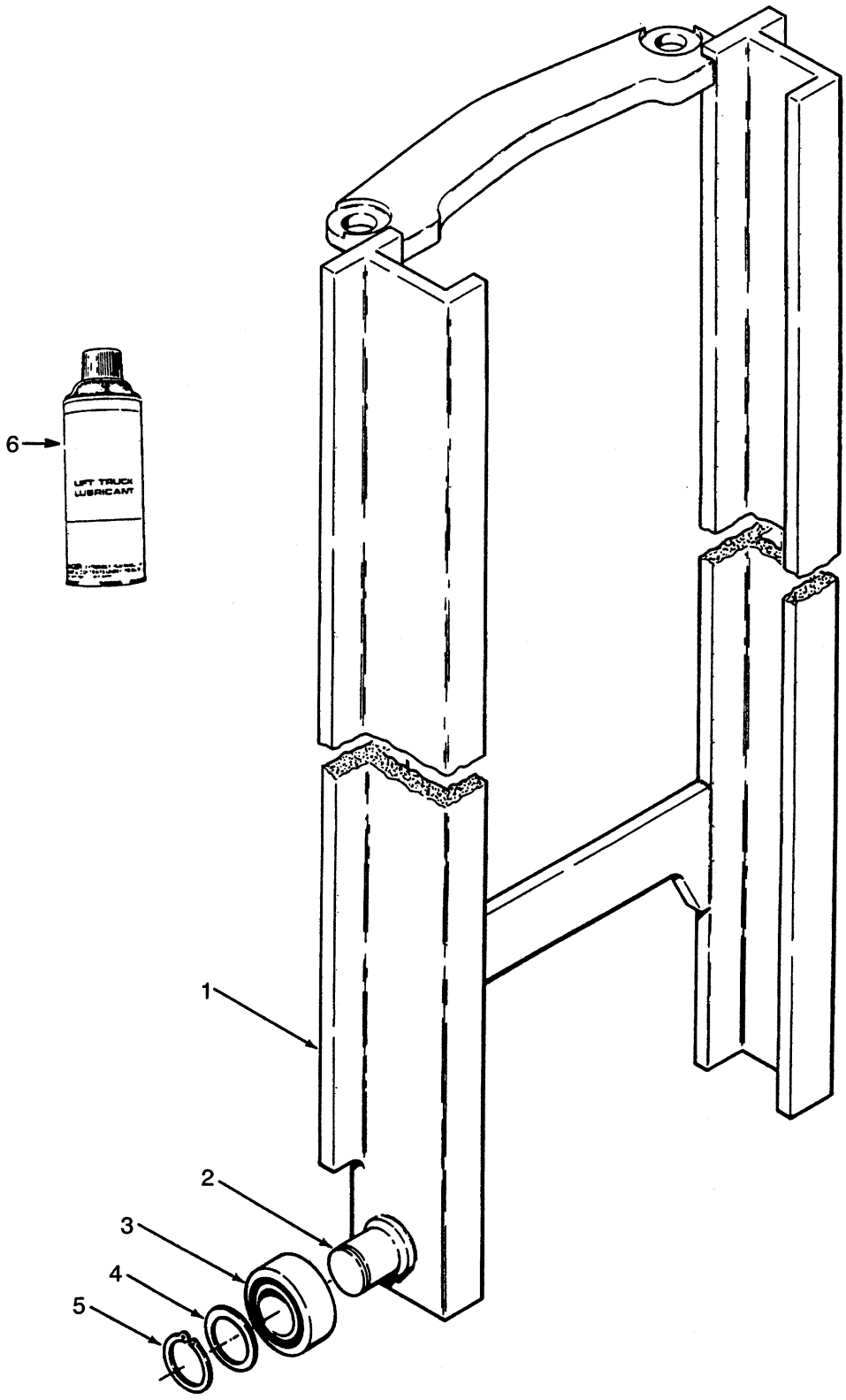
a See Charts Above

b The Letter Is Stamped On The Inside Face Of The Load Roller

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INNER MAST (FIGURE 190)

TWO-STAGE FFL



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INNER MAST

TWO-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	MAST GROUP NUMBER	**A512-3020**	**A512-3650**
	Mast	1306513	1306514
1	Inner Mast	357686	357687

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	MAST GROUP NUMBER	**A512-2760**	**A512-3390**
	Mast	1306515	1306516
1	Inner Mast	357686	357687

REF		PART NO.	NAME OF PART	QTY
	a	....	Mast	1
1	a	....	Inner Mast	1
2		341144	Stub Shaft	2
3	b	1333649	Load Roller (A, Standard Size)	2
3	b	1343002	Load Roller (B, 0.030 in Oversize, Optional)	AR
3	b	1343003	Load Roller (C, 0.060 in Oversize, Optional)	AR
4		126765	Shim (0.020 in)	AR
5		187489	Snap Ring	2
6		171351	Lubricant	AR

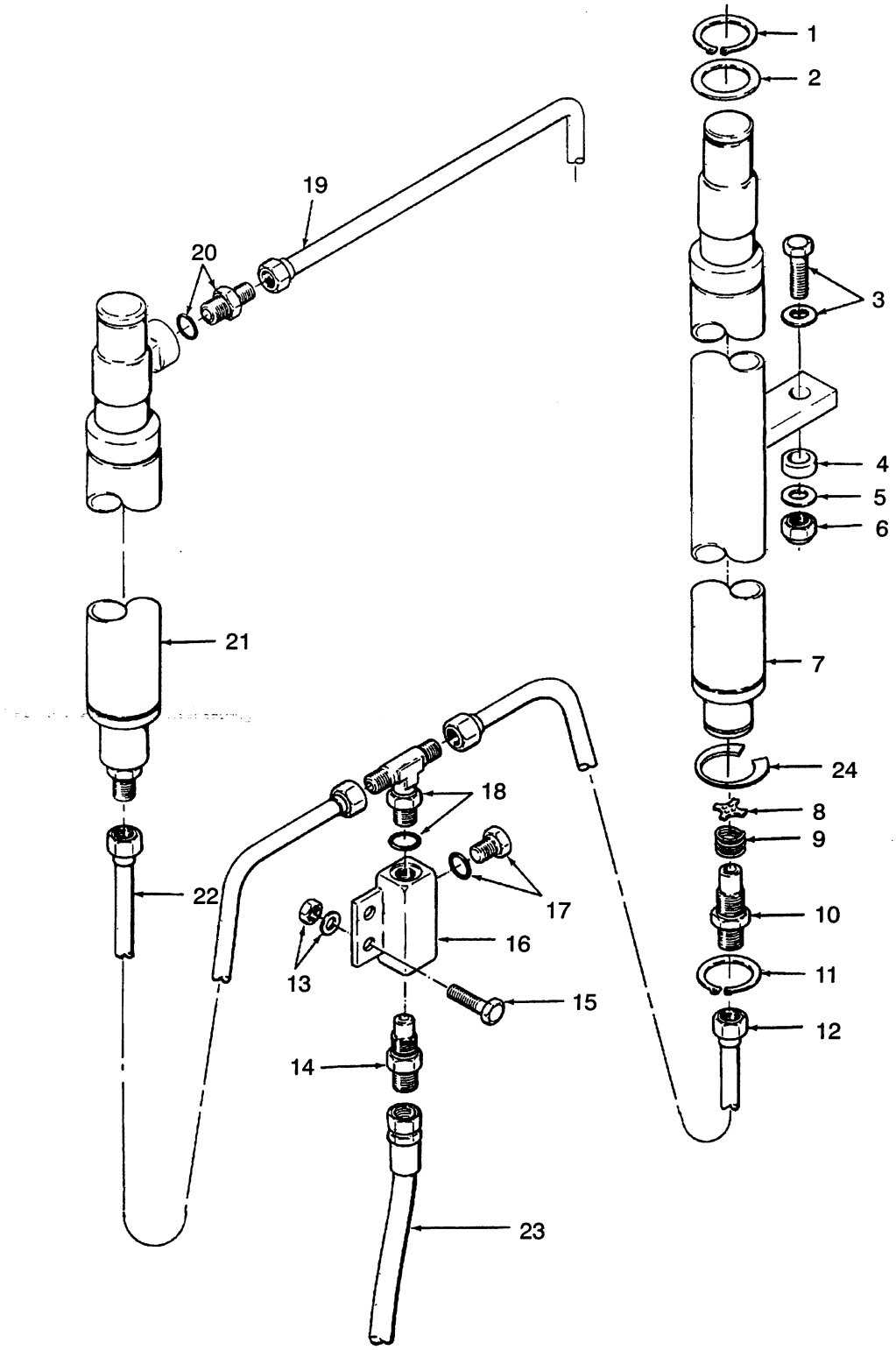
a See Charts Above

b The Letter Is Stamped On The Inside Face Of The Load Roller.

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MAIN LIFT (FIGURE 191)

TWO-STAGE FFL



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MAIN LIFT

TWO-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	MAST GROUP NUMBER	**A512-3020**	**A512-3650**
	Mast	1306513	1306514
19	Tube	1301943	1301944

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	MAST GROUP NUMBER	**A512-2760**	**A512-3390**
	Mast	1306515	1306516
19	Tube	1301943	1301944

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

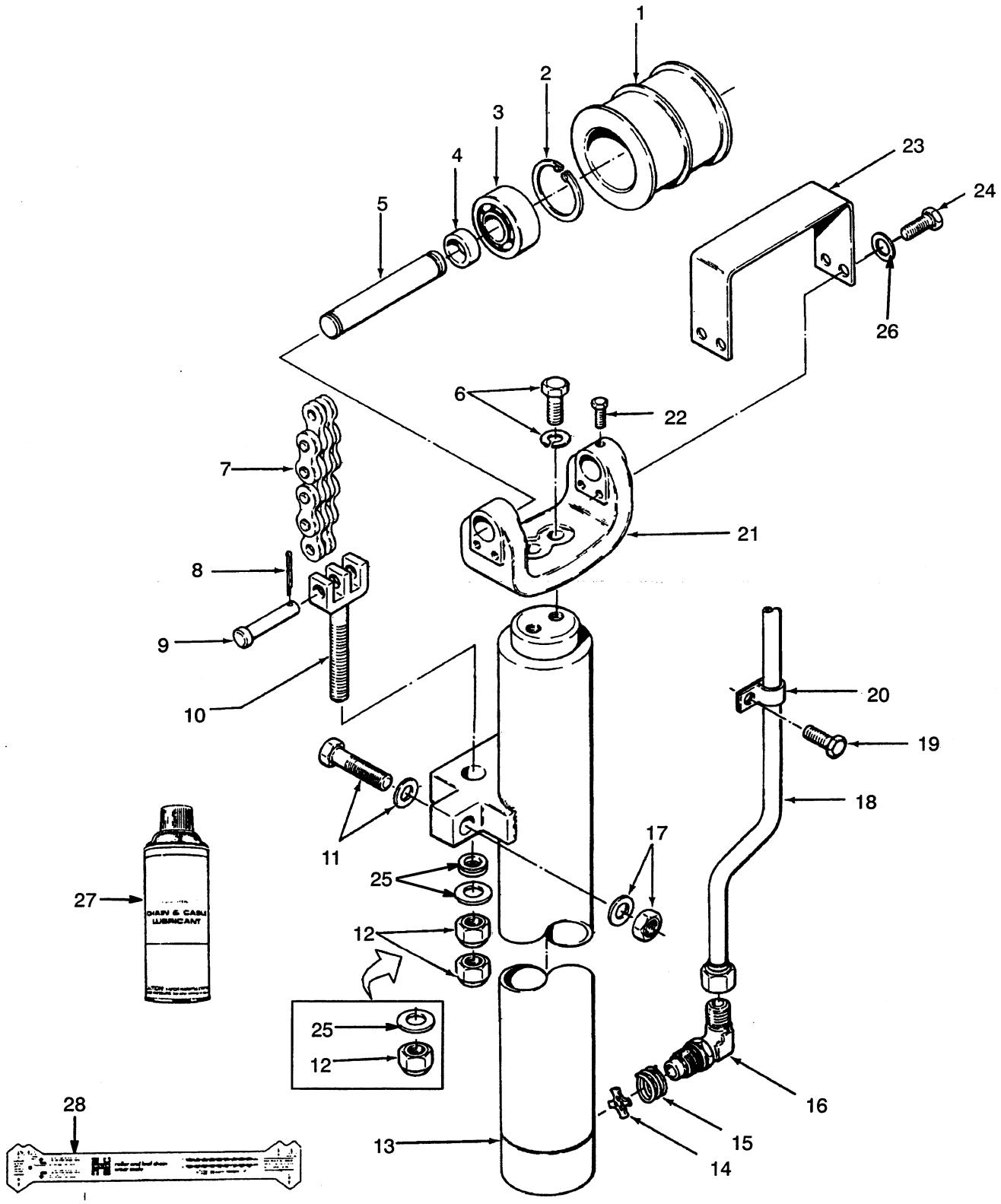
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Mast	1	1
1		304523	Snap Ring	2	2
2		332061	Washer	2	2
3		292589	Capscrew	2	2
3		296431	Washer	2	2
4		351565	Spacer	2	2
5		296431	Washer	2	2
6		316829	Nut	2	2
7		.....	Cylinder, RH. ☞ Figure 193	1	1
8		373286	Washer	1	1
9		120938	Spring	1	1
10		184799	Fitting	2	2
11		351350	Snap Ring	AR	AR
12		373269	Tube, RH	1	1
13		316826	Nut	2	2
13		320159	Washer	2	2
14		315262	Lowering Control Valve	1	..
14		319891	Lowering Control Valve	..	1
15		136985	Capscrew	2	2
16		368221	Housing	1	1
17		14603	Adapter	1	1
17		16486	O-Ring	1	1
18		274518	Fitting	1	1
18		16484	O-Ring	1	1
19	a	....	Tube	1	1
20		16544	Fitting	1	1
20		16487	O-Ring	1	1
21		....	Cylinder, LH ☞ Figure 193	1	1
22		373268	Tube, LH	1	1
23		385498	Hose	1	1
24		1344750	Shim	AR	AR

a See Charts Above

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FREE LIFT (FIGURE 192)

TWO-STAGE FFL



FREE LIFT

TWO-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	MAST GROUP NUMBER	**A512-3020**	**A512-3650**
	Mast	1306513	1306514
7	Free-Lift Chain	182319	182331

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	MAST GROUP NUMBER	**A512-2760**	**A512-3390**
	Mast	1306515	1306516
7	Free-Lift Chain	339897	339933

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Mast	1	1
1		355044	Sheave	1	1
2		40667	Snap Ring	2	2
3		126764	Bearing	2	2
4		297573	Spacer	2	2
5		318139	Pin	1	1
6		292562	Capscrew	2	2
6		292685	Lockwasher	2	2
7	a	....	Free-Lift Chain	2	2
8		15222	Cotter Pin	2	2
9		327591	Pin	2	..
9		339932	Pin	..	2
10		1331990	Chain Anchor	2	..
10		1331991	Chain Anchor	..	2
11		292589	Capscrew	2	2
11		296431	Washer	2	2
12		221717	Nut	4	4
13		....	Free-Lift Cylinder	1	1
			☞ NO TAG		

REF	PART NO.	NAME OF PART	QTY A	QTY B
14	373287	Washer	1	1
15	111975	Spring	1	1
16	318297	Fitting	1	1
17	296431	Washer	2	2
17	316829	Nut	2	2
18	....	Tube	1	1
		☞ Figure 191		
19	351668	Screw	1	1
20	178119	Clamp	1	1
21	368171	Crosshead	1	1
22	302105	Screw	1	1
23	357573	Guard	1	1
24	292514	Screw	4	4
25	1332704	Washer Set	2	2
26	292682	Washer	4	4
27	171350	Chain & Cable Lubricant	ARAR	
28	599737	Chain Wear Scale	ARAR	

a See Charts Above

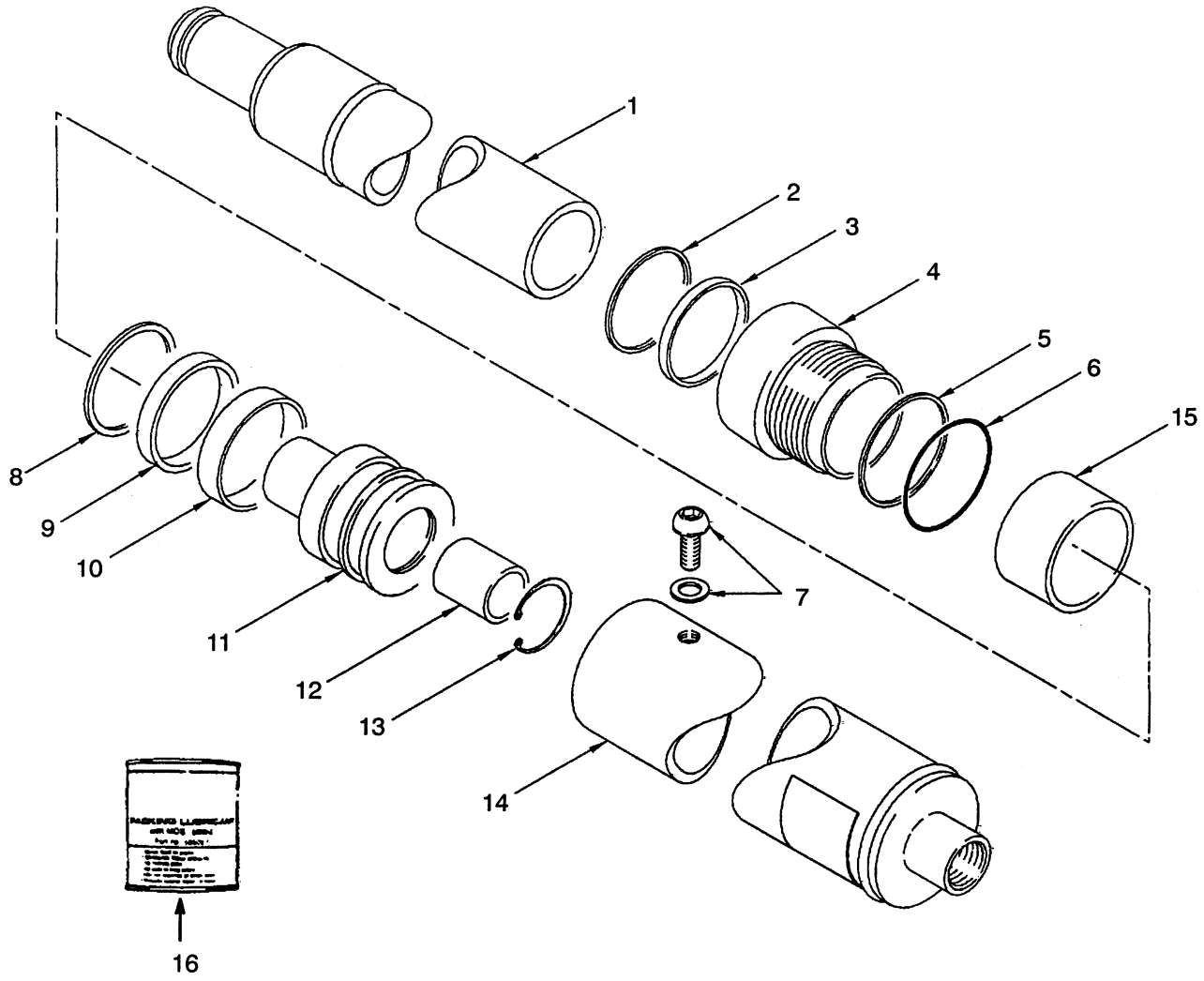
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MAIN LIFT CYLINDER (FIGURE 193)

TWO-STAGE FFL

LAST USED ON S/N PENDING PER ECN 85020-76

PARTS-SERVICE GRAM	
ITEM	GRAM
1329778 1329780	J-F-11



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MAIN LIFT CYLINDER

TWO-STAGE FFL

LAST USED ON S/N PENDING PER ECN 85020-76

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	Cylinder, RH Cylinder, LH	1329771 1329773	1329772 1329774
1	Rod, RH Rod, LH	357641 357645	357642 357646
14	Shell	351371	351372

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	Cylinder, RH Cylinder, LH	1329767 1329769	1329768 1329770
1	Rod, RH Rod, LH	357643 357647	357644 357648
14	Shell	351371	351372

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Main-Lift Cylinder	2	2
1	a	....	Rod	1	1
2	b	636854	Wiper	1	..
2	c	203371	Wiper	..	1
3	b	1310373	Seal	1	..
3	c	1310374	Seal	..	1
4		1310376	Retainer	1	..
4		357667	Retainer	..	1
5	bc	276627	Back-Up Ring	1	1
6	bc	198518	O-Ring	1	1
7		295649	Capscrew	1	1
7	bc	190887	Seal	1	1
8	bc	638249	Back-Up Ring	1	1
9	bc	270077	Seal	1	1
10	bc	297532	Wear Ring	1	1
11		357664	Piston	1	1
11		226414	Adhesive	ARAR	
12		1310339	Piston	1	1
13		58916	Snap Ring	1	1
14	a	....	Shell	1	1
15		357626	Spacer	..	1
16		186061	Packing Lubricant	ARAR	

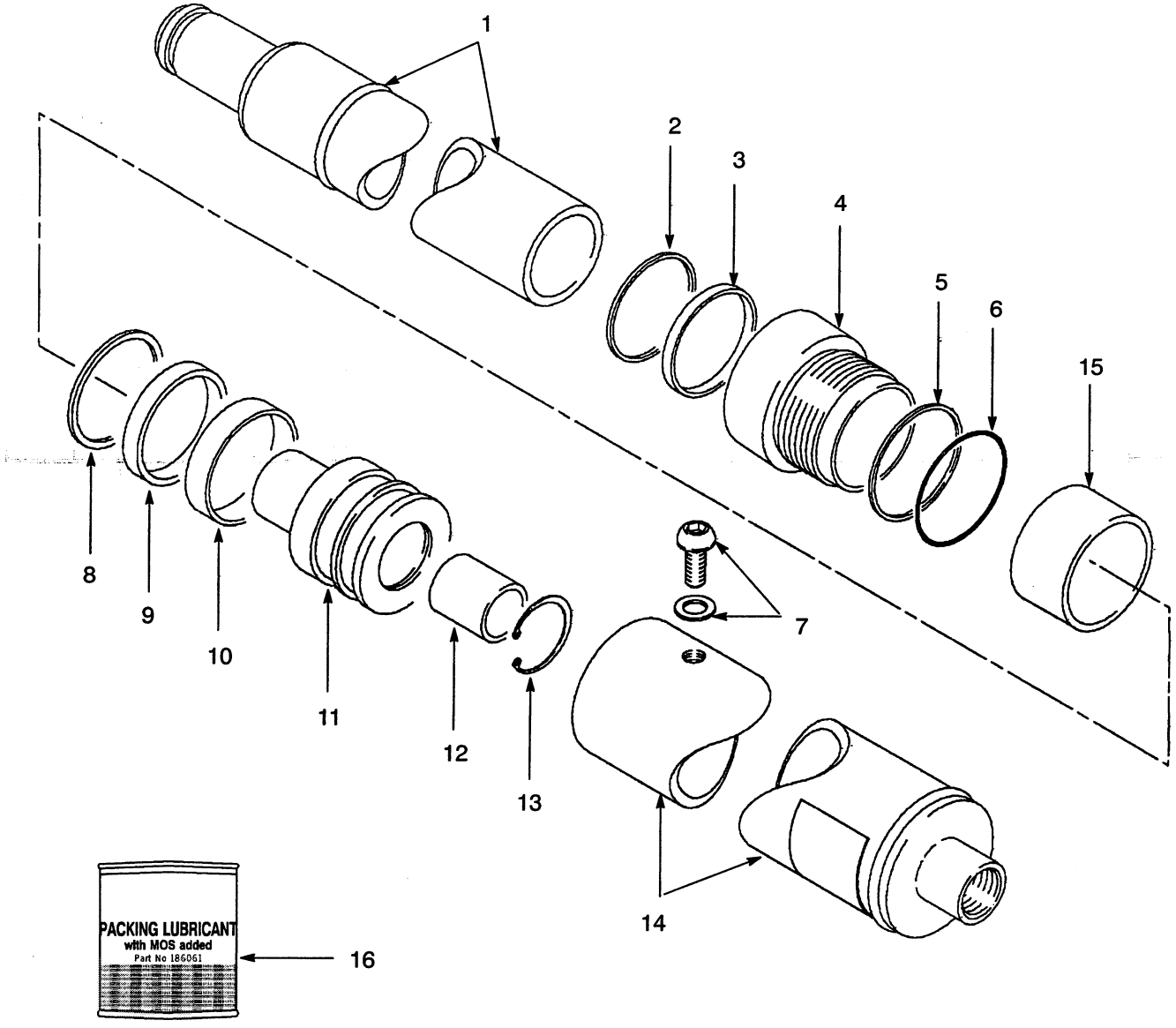
a See Charts Above
b Included In Seal Kit 1329778
c Included In Seal Kit 1329780

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MAIN LIFT CYLINDER (FIGURE 194)

VISTA 2 STAGE-FFL

FIRST USED ON S/N PENDING PER ECN 85020-76



MAIN LIFT CYLINDER

VISTA 2 STAGE-FFL

FIRST USED ON S/N PENDING PER ECN 85020-76

H70-80XL & H90XLS

REF NO.	NAME OF PART	LIFT HEIGHT TO BOTTOM OF FORK	
		(3020 mm) 119.0 in.	(3650 mm) 143.5 in.
	Group Number Cylinder-LH	8603631 bc2037560	8603633 bc2037562
	Group Number Cylinder-RH	8603632 bc2037561	8603634 bc2037563
1	Rod-LH Rod-RH	bc357645 bc357641	bc357646 bc357642
14	Shell	bc351371	bc351372

H90-110XL

First Used On S/N A512D-1660 (108.5 in) And A512E-1951 (133.5 in)

REF NO.	NAME OF PART	LIFT HEIGHT TO BOTTOM OF FORK	
		(2760 mm) 108.5 in.	(3390 mm) 133.5 in.
	Group Number Cylinder-LH	8605803 bc2037566	8605801 bc2037564
	Group Number Cylinder-RH	8605804 bc2037567	8605802 bc2037565
1	Rod-LH Rod-RH	bc357647 bc357643	bc357648 bc357644
14	Shell	bc351371	bc351372

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MAIN LIFT CYLINDER

VISTA 2 STAGE-FFL

FIRST USED ON S/N S/N PENDING PER ECN 85020-76

KEY:
A: E70-80XL
B: E100-120XL

Ref		Part No.	Name Of Part	QTY A	QTY B
	a	....	Goup Number	1	1
	a	....	Cylinder, RH	1	1
	a	....	Goup Number	1	1
	a	....	Cylinder, LH	1	1
1	a	....	Rod	1	1
2	d	1310370	Wiper	1	..
2	e	1310371	Wiper	..	1
3	d	1310373	Seal	1	..
3	e	1310374	Seal	..	1
4		1464164	Retainer	1	..
4		2033498	Retainer	..	1
5	g	166659	Back-Up Ring	1	1
6	g	198518	O-Ring	1	1
7		295649	Capscrew	1	1
7	g	190887	Seal	1	1
8	g	638249	Back-Up Ring	1	1
9	g	270077	Seal	1	1
10		297532	Wear Ring	1	1
11		357664	Piston (Free Lift)	AR	AR
11		264134	Adhesive sealant	AR	AR
12		1310339	Piston (Floating)	1	1
13		58916	Snap Ring	1	1
14	a	....	Shell	1	1
15		357626	Spacer	..	1
16		186061	Lubricant	AR	AR

a ☞ Tables Above
b 380000 Series Masts
c 1306000 Series Masts
d Included In Seal Kit 1464326
e Included In Seal Kit 2033499
g Included In All The Above Seal Kits

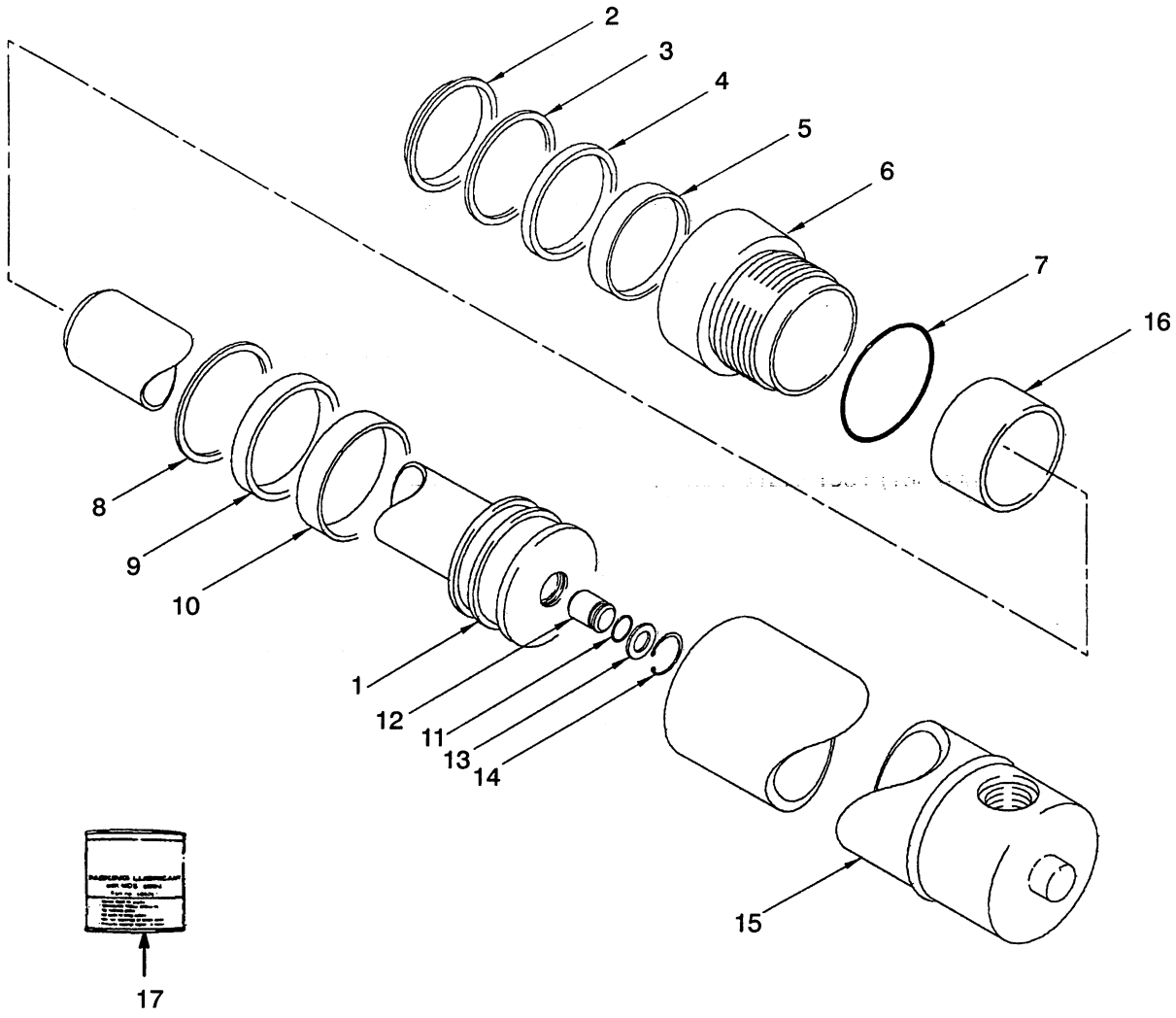
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NOTES

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FREE-LIFT CYLINDER (FIGURE 195)

TWO-STAGE FFL



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FREE-LIFT CYLINDER
TWO-STAGE FFL

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	Free-Lift Cylinder	357677	357678
1	Rod/Piston	351593	351594
15	Shell	357673	357674

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	Free-Lift Cylinder	357679	357680
1	Rod/Piston	351633	351634
15	Shell	357675	357676

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

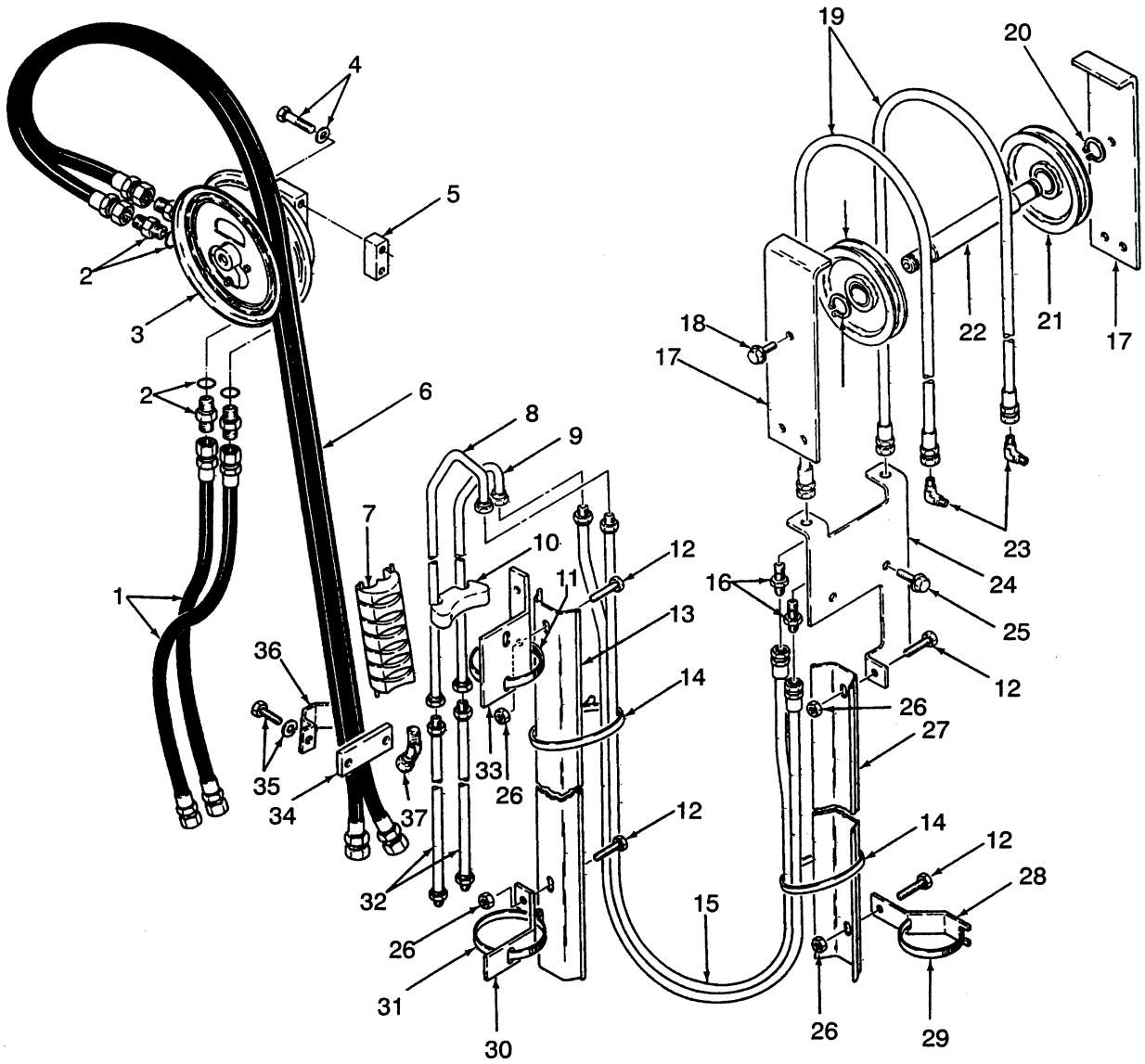
REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	....	Free-Lift Cylinder	1	1
1	a	....	Rod/Piston	1	1
2	bc	636858	Wiper Ring	1	1
3	bc	638292	Back-Up Ring	1	1
4	bc	637161	Seal	1	1
5	bc	215345	Wear Ring	1	1
6		351618	Retainer	1	..
6		351619	Retainer	..	1
7	b	46629	O-Ring	1	..
7	c	15885	O-Ring	..	1
8	b	636071	Back-Up Ring	1	..
8	bc	638253	Back-Up Ring	..	1
9	b	637162	Seal	1	..
9	c	637164	Seal	..	1
10	bc	636950	Wear Ring	1	..
10	c	636952	Wear Ring	..	1
11	bc	39348	O-Ring	1	1
12		658947	Valve	1	1
13		637635	Washer	1	1
14		187388	Snap Ring	1	1
15	a	....	Shell	1	1
16		357598	Spacer	..	1
17		186061	Packing Lubricant	ARAR	

a See Charts Above
b Included In Seal Kit 1302768
c Included In Seal Kit 1302767

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HEADER HOSES (FIGURE 196)

TWO-STAGE FULL FREE LIFT MAST



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HEADER HOSES

TWO-STAGE FULL FREE LIFT MAST

H70-80XL & H90XLS

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		119.0 inch	143.5 inch
	MAST GROUP NUMBER	**A512-3020**	**A512-3650**
1	Hose	360444	367157
8	Tube	357592	357593
9	Tube	357595	357596
13	Channel	358281	358282
15	Hose	358295	358296
19	Hose	358293	358294
27	Channel	1307611	1307612

H90-110XL

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS	
		108.5 inch	133.5 inch
	MAST GROUP NUMBER	**A512-2760**	**A512-3390**
1	Hose	360444	367157
8	Tube	357592	357593
9	Tube	357595	357596
13	Channel	358281	358282
15	Hose	358295	358296
19	Hose	358293	358294
27	Channel	1307611	1307612

CONTINUED ON THE NEXT PAGE

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HEADER HOSES

TWO-STAGE FULL FREE LIFT MAST

KEY:
A: Three Function Control Valve
B: Four Function Control Valve

REF		PART NO.	NAME OF PART	QTY A	QTY B
1	a	....	Hose	..	2
2		16541	Fitting	..	4
2		16484	O-Ring	..	1
3		358289	Hose Reel	..	1
3		1390556	Hose Reel (Optional)	..	1
3		672563	Kit-Seal	..	1
4		292535	Capscrew	..	2
4		320161	Washer	..	2
5		323165	Plate	..	1
6		367162	Hose	..	1
7		358286	Strain Relief	..	1
8	a	....	Tube	1	1
9	a	....	Tube	1	1
10		340054	Spacer	2	2
11		78286	Clamp	2	2
12		287851	Capscrew	4	4
13	a	....	Channel	1	1
14		129563	Strap/Clamp	2	2
15	a	....	Hose	1	1
16		16448	Fitting	2	2
17		368173	Plate	2	2
18		351668	Screw	2	2
19	a	....	Hose	2	2
20		248212	Snap Ring	2	2
21		297647	Sheave	2	2
22		368172	Shaft	1	1
23		16458	Fitting	2	2
24		341308	Plate	1	1
25		351668	Screw	2	2
26		313828	Nut	4	4
27	a	....	Channel	1	1
28		357583	Bracket	1	1
29		227220	Clamp	1	1
30		351369	Bracket	1	1
31		115696	Clamp	2	2
32		367149	Hose	2	2
33		341324	Bracket	1	1
34		356431	Plate	..	1
35		16870	Capscrew	..	2
35		15156	Lockwasher	..	2
36		358287	Bracket	..	1
37	b	17039	Fitting	2	2

a See Charts Above
b 11 Degree Forward Tilt

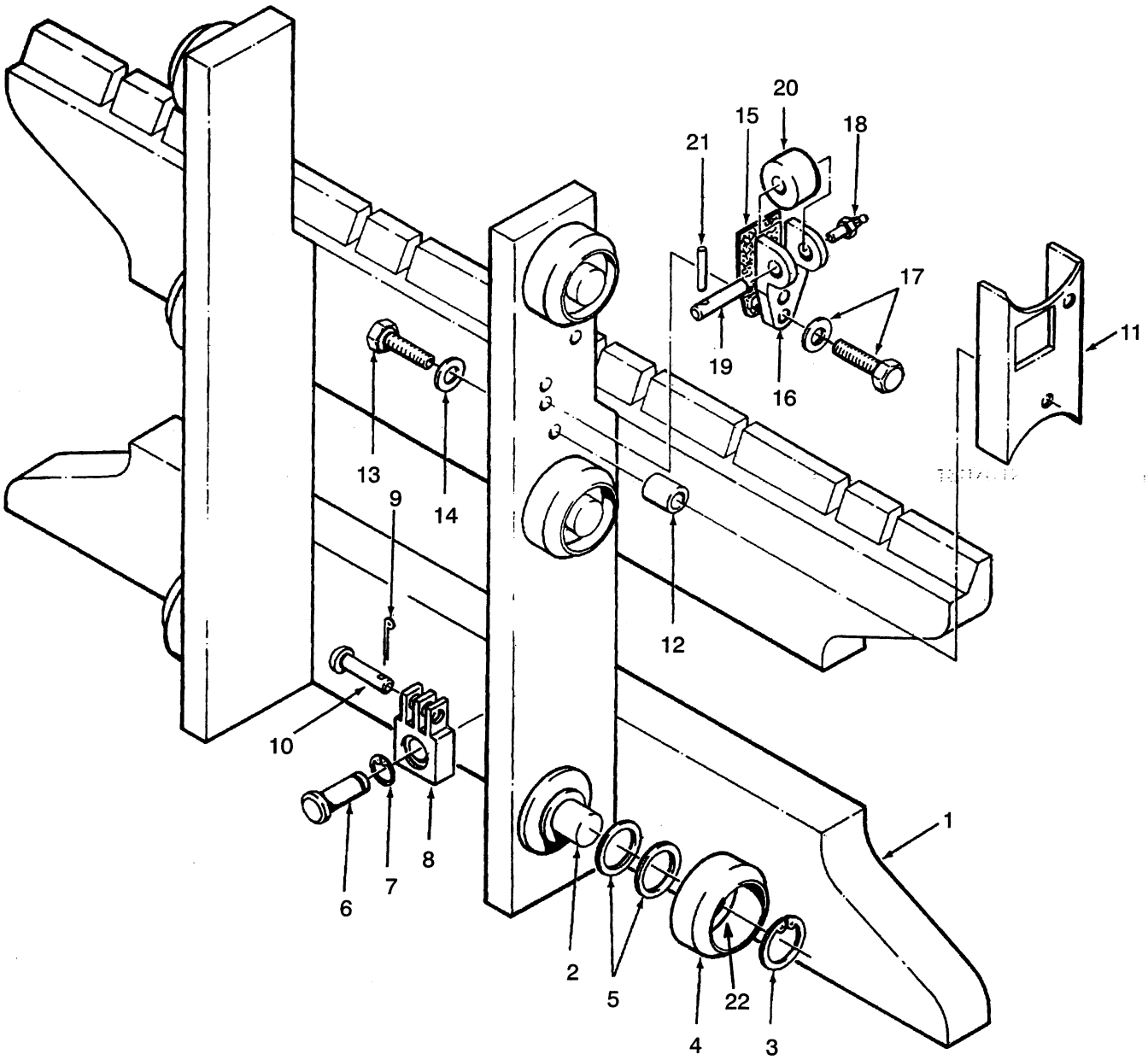
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NOTES

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CARRIAGE (FIGURE 197)

TWO-STAGE FFL



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CARRIAGE

TWO-STAGE FFL

KEY:
A: H70-80XL & H90XLS
B: H90-110XL

REF		PART NO.	NAME OF PART	QTY A	QTY B
		1379259	Carriage (48 in)	1	..
		358321	Carriage (48 in)	..	1
1		1379260	Frame (48 in)	1	..
1		362283	Frame (48 in)	..	1
2		341144	Stub Shaft	6	6
3		187489	Snap Ring	6	6
4		1333648	Load Roller (A,		
	a		Standard Size)	6	6
4	a	1343010	Load Roller (B, 0.030, in Oversize, Optional)	AR	AR
4	a	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR	AR
5		126765	Shim (0.020 in)	AR	AR
6		320327	Pin	2	2
7		131358	Snap Ring	2	2
8		357579	Chain Anchor	2	..
8		341558	Chain Anchor	..	2
9		15222	Cotter Pin	2	2
10		327591	Pin	2	..
10		339932	Pin	..	2
11		319322	Guard, RH	1	1
11		319323	Guard, LH	1	1
12		317292	Spacer	4	4
13		18518	Capscrew	4	4
14		15155	Lockwasher	4	4
15		192424	Shim (.030 in, Optional)	..	AR
15		192425	Shim (.062 in, Optional)	..	AR
16		244008	Bracket (Roller, Optional)	..	2
17		292683	Lockwasher (Optional)	..	4
17		292528	Capscrew (Optional)	..	4
18		16001	Grease Fitting (Optional)	..	2
19		244009	Pin (Optional)	..	2
20		244005	Roller (Optional)	..	2
21		66333	Spring Pin (Optional)	..	2
22		366116	Spacer	2	2

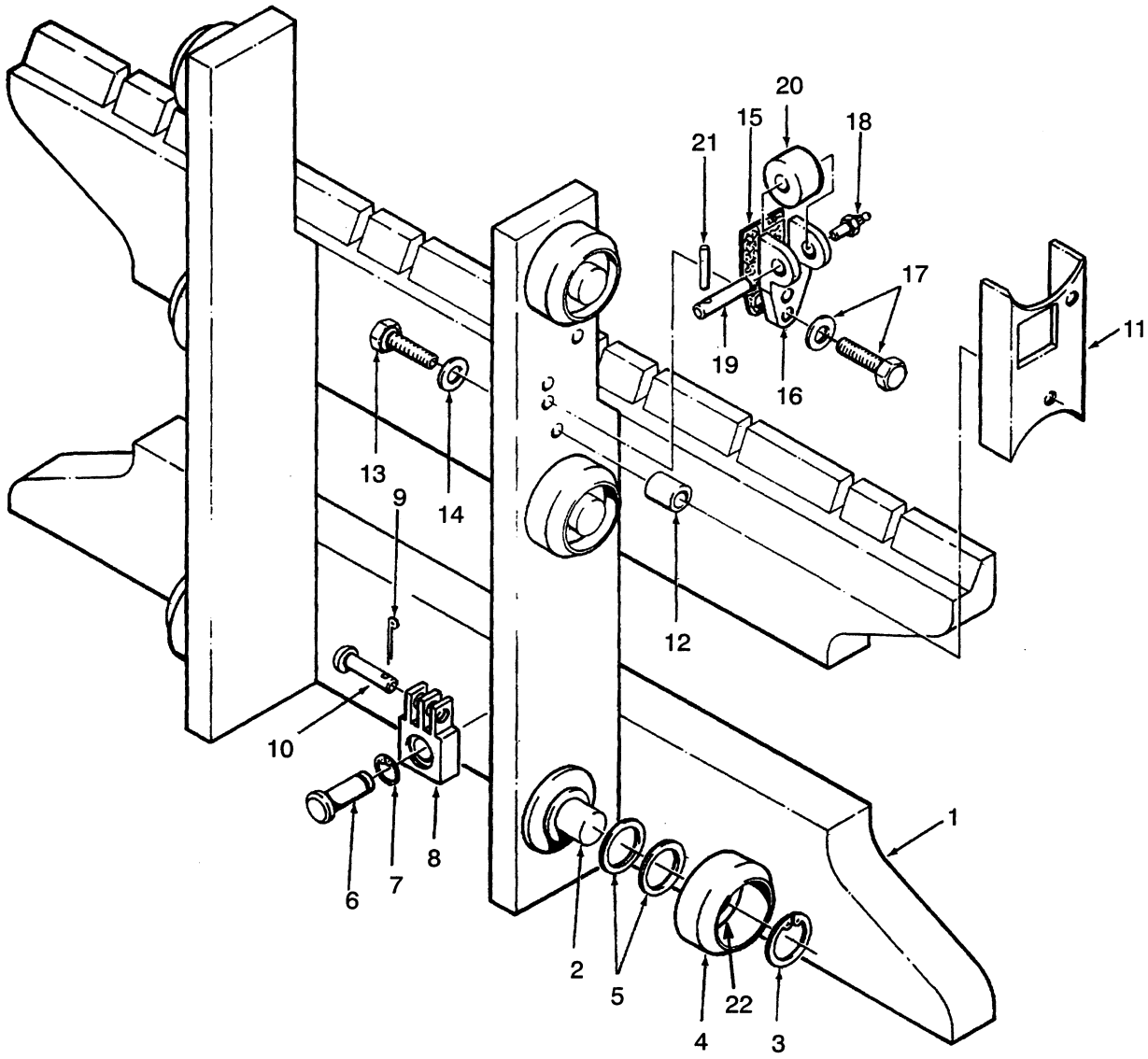
a The Letter Is Stamped On The Inside Face Of The Load Roller

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CARRIAGE (FIGURE 198)

TWO-STAGE FFL

H90-100XL ATTACHMENT



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CARRIAGE

TWO-STAGE FFL

H90-100XL ATTACHMENT

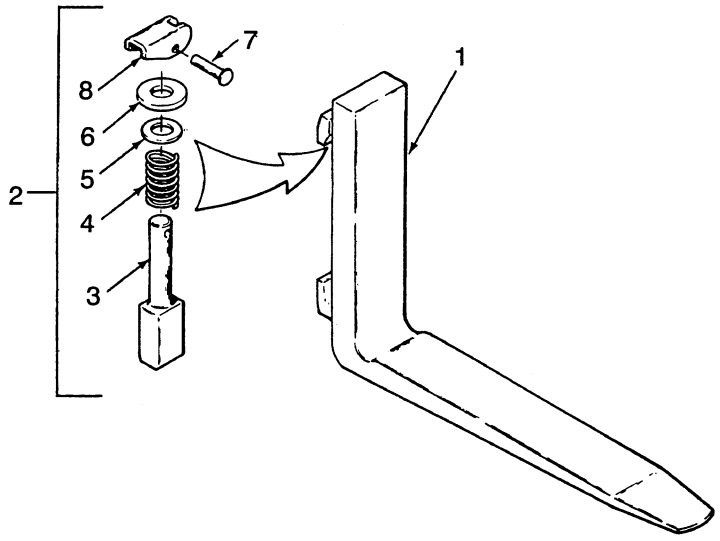
REF		PART NO.	NAME OF PART	QTY
		1379261	Carriage	1
1		1379262	Frame	1
2		341144	Stub Shaft	6
3		187489	Snap Ring	6
4	a	1333648	Load Roller (A, Standard Size)	6
4	a	1343010	Load Roller (B, 0.030 in Oversize, Optional)	AR
4	a	1343011	Load Roller (C, 0.060 in Oversize, Optional)	AR
5		126765	Shim (0.020 in)	AR
6		320327	Pin	2
7		131358	Snap Ring	2
8		341558	Chain Anchor	2
9		15222	Cotter Pin	2
10		339932	Pin	2
11		319322	Guard, RH	1
11		319323	Guard, LH	1
12		317292	Spacer	4
13		18518	Capscrew	4
14		15155	Lockwasher	4
15		192424	Shim (0.030 in)	AR
15		192425	Shim (0.062 in)	AR
16		244008	Roller Bracket	2
17		292683	Lockwasher	4
17		292528	Capscrew	4
18		16009	Grease Fitting	2
19		244009	Pin	2
20		244005	Roller	2
21		66333	Spring Pin	2
22		366116	Spacer	2

a The Letter Is Stamped On The Inside Face Of The Load Roller.

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FORKS (FIGURE 199)

HOOK TYPE



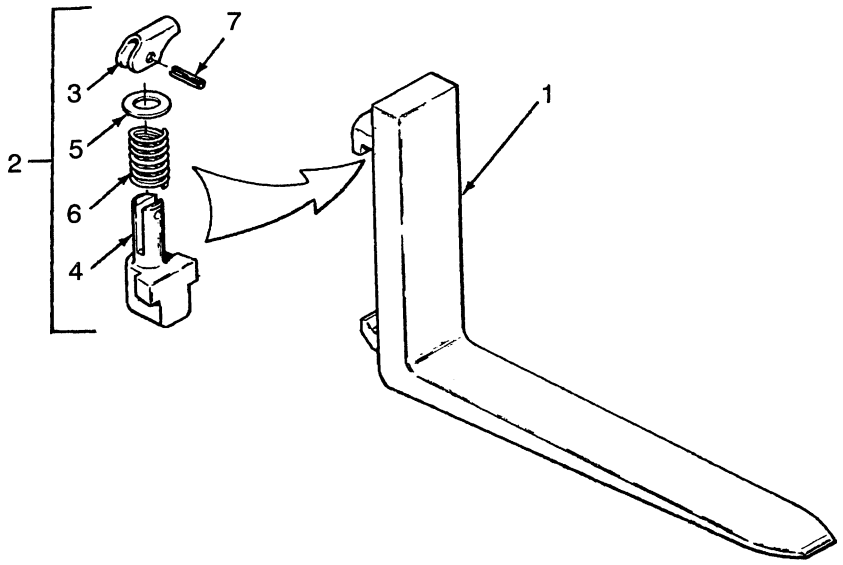
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER			FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	[a] H90-100XL	H90-110XL	H70-80XL & H90XLS	
1	Fork					
	36 inch	367419	..	..	..	2
	42 inch	367420	..	..	1338097	2
	47.5 inch	..	..	..	1338098	2
	48 inch	367421	..	1333001	..	2
	54 inch	367422	..	1333002	..	2
	60 inch	367423	..	1333003	..	2
	72 inch	367424	..	1333004	..	2
2	Latch	332378	332378	332378	332378	1
3	Pin	332377	332377	332377	332377	1
4	Spring	141852	141852	141852	141852	1
5	Washer	195436	195436	195436	195436	1
6	Washer	157001	157001	157001	157001	1
7	Rivet	141853	141853	141853	141853	1
8	Handle	141856	141856	141856	141856	1

[a] Attachment Carriage

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FORKS (FIGURE 200)

HOOK TYPE



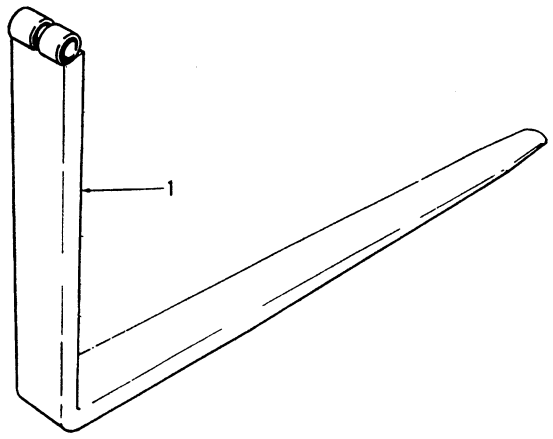
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER			FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	[a] H90-100XL	H90-110XL	H70-80XL & H90XLS	
1	Fork					
	36 inch	367419	..	..	..	2
	42 inch	367420	..	..	1338097	2
	47.5 inch	..	..	..	1338098	2
	48 inch	367421	1333046	1333001	..	2
	54 inch	367422	1333047	1333002	1332745	2
	60 inch	367423	1333048	1333003	..	2
	72 inch	367424	1333049	1333004	..	2
2	Latch	369796	369796	369797	369796	1
3	Handle	368706	368706	368706	368706	1
4	Pin	71153	71153	71153	71153	1
5	Washer	368707	368707	368707	368707	1
6	Spring	368705	368705	368705	368705	1
7	Pin	368703	368703	368703	368703	1

[a] Attachment Carriage

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FORKS (FIGURE 201)

PIN TYPE



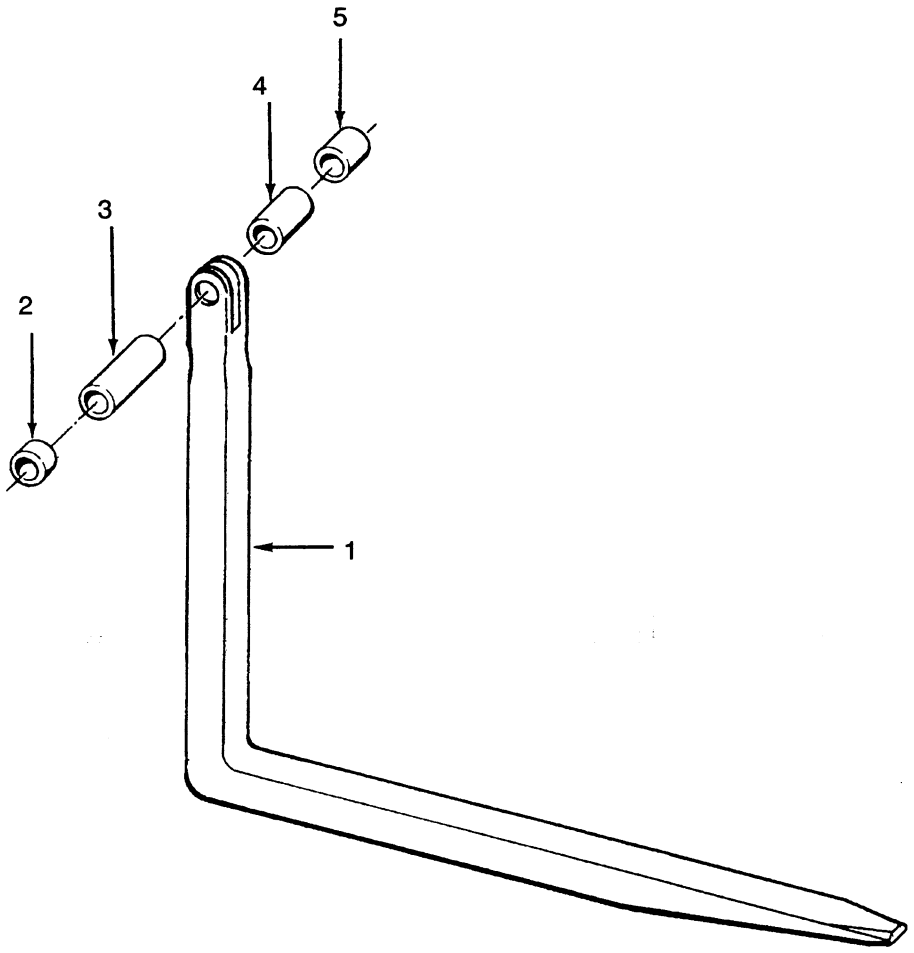
REF NO	NAME OF PART 1 2 3 4	STANDARD TAPER		FULL BOTTOM TAPER	QTY
		H70-80XL, H90XLS	H90-100XL	H70-80XL & H90XLS	
1	Fork				
	42 inch	367425	..	1338100	2
	47.5 inch	..	..	1338101	2
	48 inch	367427	1333120	..	2
	54 inch	367430	1333107	1338102	2
	60 inch	367432	1333110	..	2
	72 inch	367435	1333113	..	2
	96 inch	..	1333117	..	2

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FORKS (FIGURE 202)

BLOCK TYPE

48 INCH CARRIAGE



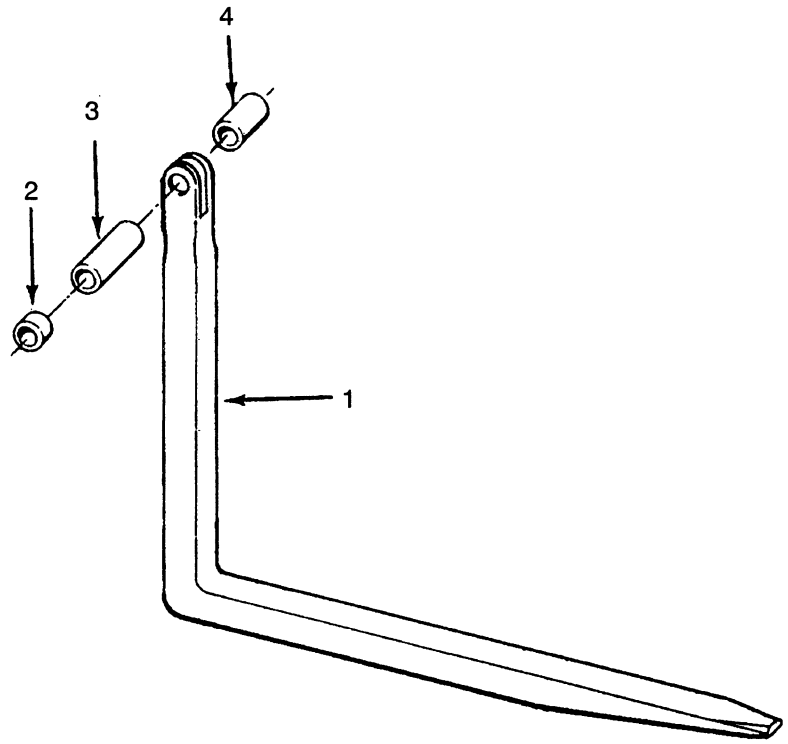
REF		PART NO.	NAME OF PART	QTY
1		368719	Fork (38 in)	6
1		368720	Fork (45-5/8 in)	6
2	a	171489	Hose (1-5/8 in)	2
3	a	171488	Hose (4-1/4 in)	2

REF		PART NO.	NAME OF PART	QTY
4	a	373453	Hose	2
5	a	373454	Hose	1

a Included In Spacer Kit 171504

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FORKS (FIGURE 203)
BLOCK TYPE
62 INCH CARRIAGE



REF	PART NO.	NAME OF PART	QTY
1	368719	Fork (38 in)	8
1	368720	Fork (45-5/8 in)	8
2	171489	Hose (1-5/8 in)	2
3	171490	Hose (3-1/4 in)	2
4	171488	Hose (4-1/4 in)	4

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OPTIONAL EQUIPMENT

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CAB (Figure 224) ..... Page 448

FIRE EXTINGUISHER (Figure 219) ..... Page 439

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SIDESHIFT CARRIAGE (Figure 205)
THREE-STAGE FFL AND TWO-STAGE FFL MASTS
PIN TYPE
H70-80XL & H90XLS ..... Page 416

SIDESHIFT CARRIAGE (Figure 204)
TWO-STAGE LIMITED FREE LIFT MAST
PIN TYPE
H70-80XL & H90XLS ..... Page 414

SIDESHIFT CARRIAGE (Figure 206)
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SIDESHIFT CARRIAGE (Figure 209)
HOOK TYPE
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SIDESHIFT CARRIAGE (Figure 210)
HOOK TYPE
THREE-STAGE FULL FREE LIFT MAST ..... Page 424

SIDESHIFT CARRIAGE (Figure 211)
HOOK TYPE
TWO-STAGE FULL FREE LIFT MAST ..... Page 426

SIDESHIFT CARRIAGE (Figure 212)
SERIES 1356000 ..... Page 428

SIDESHIFT CYLINDER (Figure 207)
PIN TYPE
IDENTIFY BY PART NUMBER ..... Page 420

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OPTIONAL EQUIPMENT (Continued)

SIDESHIFT CYLINDER (Figure 208)
PIN TYPE
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SIDESHIFT CYLINDER (Figure 213)
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TIRES AND WHEELS (Figure 215)
SINGLE DRIVE WHEEL
H70-80XL & H90XLS
LEMMERZ BRAND WHEELS ..... Page 432

TIRES AND WHEELS (Figure 216)
SINGLE DRIVE WHEEL
ADVANCE BRAND WHEELS ..... Page 434

TIRES AND WHEELS (Figure 217)
DUAL DRIVE WHEEL
H70-80XL & H90XLS ..... Page 436

TIRES AND WHEELS (Figure 218)
STEER WHEEL ..... Page 438

WIPERS AND DEFROSTER FAN (Figure 226) ..... Page 452

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NOTES

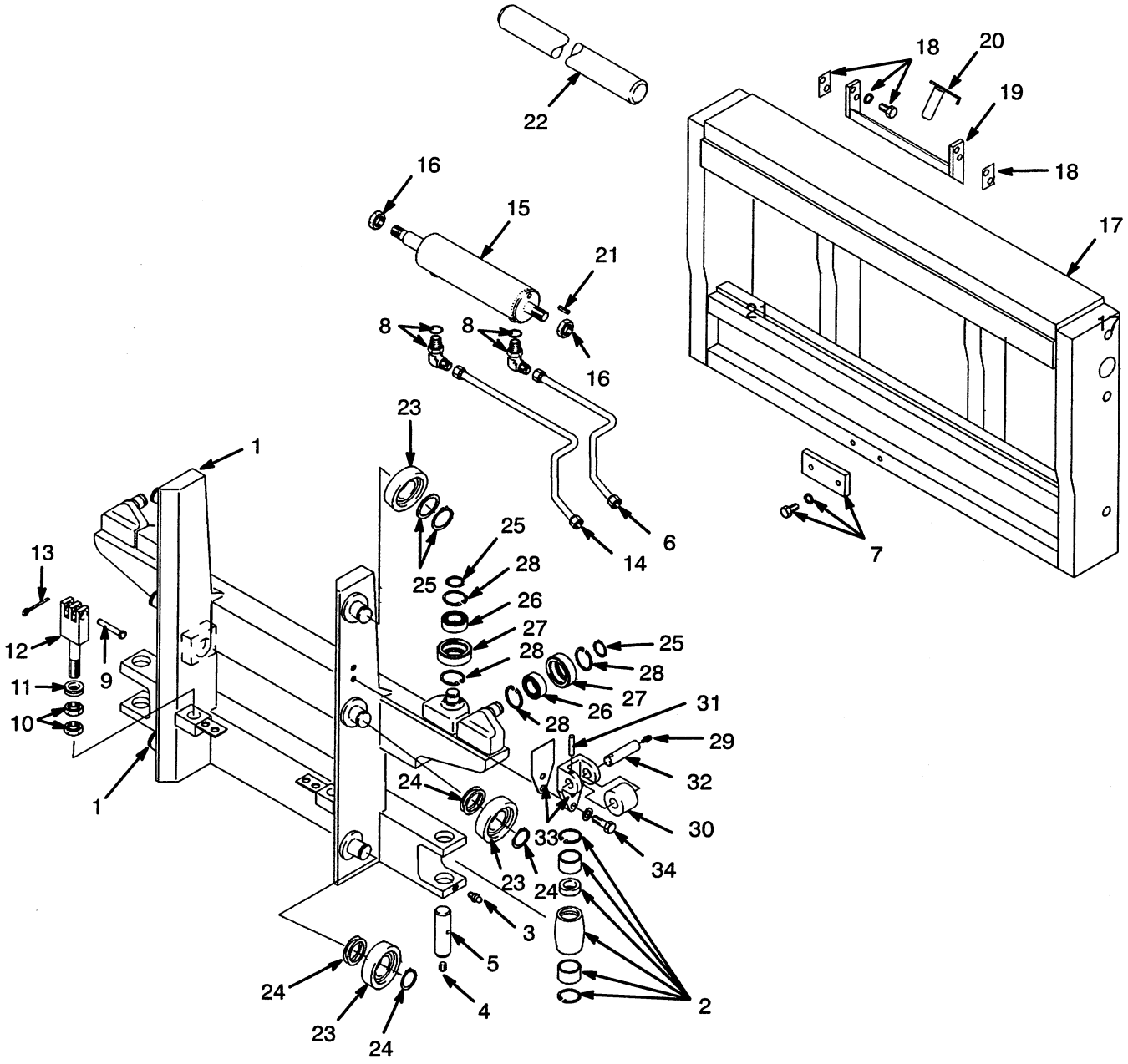
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SIDESHIFT CARRIAGE (FIGURE 204)

TWO-STAGE LIMITED FREE LIFT MAST

PIN TYPE

H70-80XL & H90XLS



SIDESHIFT CARRIAGE

TWO-STAGE LIMITED FREE LIFT MAST

PIN TYPE

H70-80XL & H90XLS

KEY:
A: 48 Inch Carriage
B: 62 Inch Carriage

REF	PART NO.	NAME OF PART	QTY A	QTY B
	357617	Carriage (48 in)	1	..
	357618	Carriage (62 in)	..	1
1	357606	Frame (48 in)	1	..
1	357607	Frame (62 in)	..	1
1	341144	Stub Shaft	6	6
2	161278	Roller	2	2
2	161280	Bearing	2	2
2	161281	Spacer	1	1
2	161282	Snap Ring	2	2
2	161283	Seal	2	2
3	16006	Grease Fitting	2	2
4	15483	Fitting	2	2
5	161285	Pin	2	2
6	387032	Tube	1	..
6	387033	Tube	..	1
7	116692	Plate	1	2
7	15158	Lockwasher	2	4
7	37562	Screw	2	4
8	96521	Fitting	2	2
8	16483	O-Ring	1	1
9	327591	Pin	2	2
10	182377	Nut	2	2
11	182376	Base Ring	2	2
12	351666	Chain Anchor	2	2
13	15222	Cotter Pin	2	2
14	387035	Tube	1	..
14	387036	Tube	..	1
15	....	Sideshift Cylinder	1	1
		☞ Figure 207 & Figure 208		
16	246709	Locknut	2	2
17	297101	Apron (48 in)	1	..
17	171430	Apron (62 in)	..	1
18	131896	Shim (.028 in)	ARAR	
18	16691	Capscrew	8	8
18	15155	Lockwasher	8	8
19	294895	Bar	2	..
19	171477	Bar	..	2
20	297102	Lock Pin	2	..
20	129004	Lock Pin	..	2
20	69197	Spring	1	1
20	61141	Ball	1	1
21	19868	Spring Pin	1	1
22	66467	Pin	2	..
22	171481	Pin	..	2
23 [a]	1333648	Load Roller (A, Standard Size)	6	6
23 [a]	1343010	Load Roller (B, .030 in Oversize, Optional)	ARAR	
23 [a]	1343011	Load Roller (C, .060 in Oversize, Optional)	ARAR	
24	126765	Shim (.020 in)	ARAR	
24	187489	Snap Ring	6	6
25	34507	Snap Ring	4	4
25	366116	Spacer	4	4
26	129002	Bearing	4	4
27	129003	Roller	4	4
28	24702	Snap Ring	8	8
29	16001	Fitting	2	2
30	244005	Roller	2	2
31	66333	Spring Pin	2	2
32	244009	Pin	2	2
33	244008	Roller Bracket	2	2
33	192425	Shim (.062 in)	ARAR	
33	192424	Shim (.030 in)	ARAR	
34	292528	Capscrew	4	4
34	292683	Lockwasher	4	4

[a] The Letter Is Stamped On The Inside Face Of The Load Roller

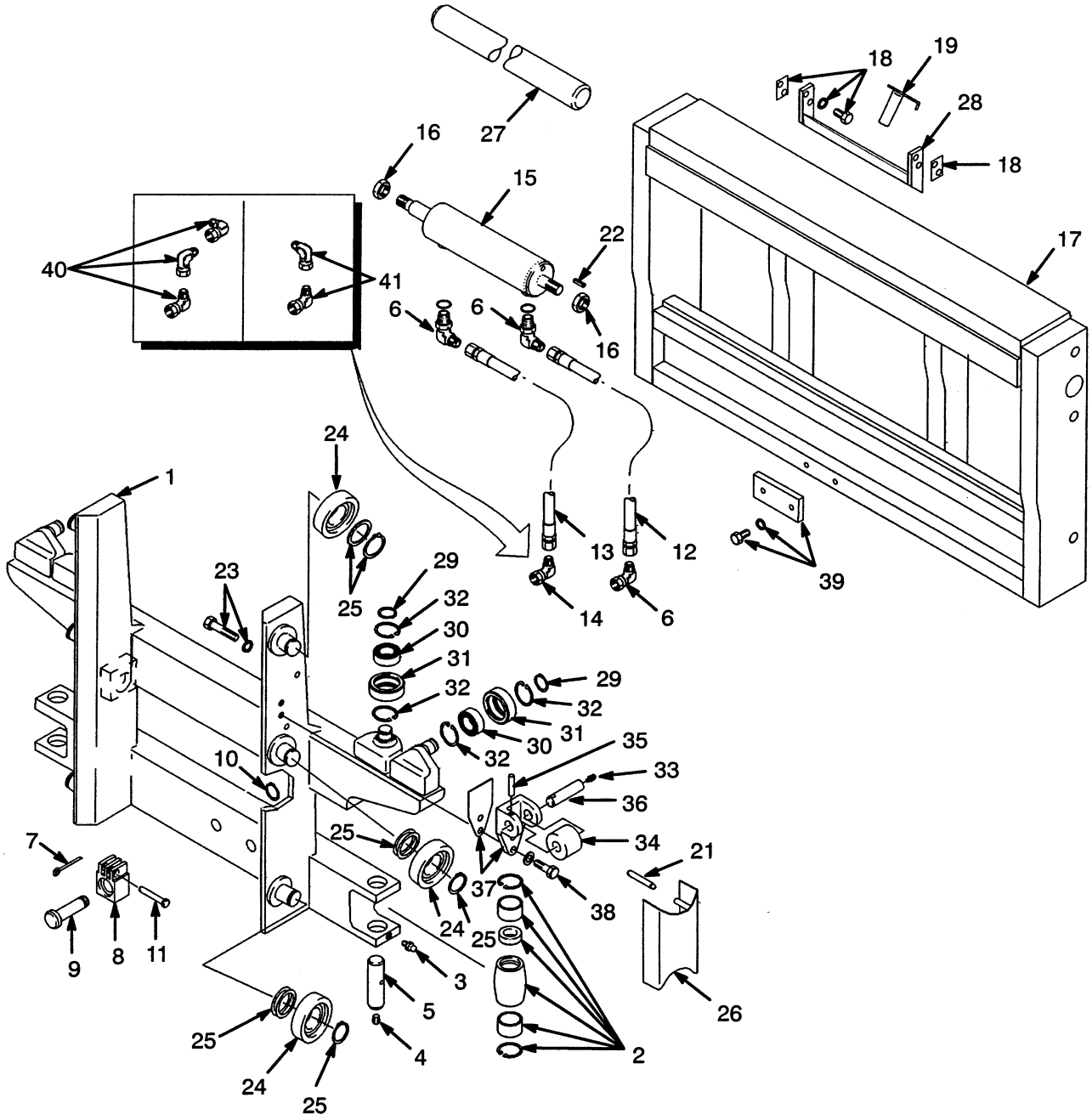
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SIDESHIFT CARRIAGE (FIGURE 205)

THREE-STAGE FFL AND TWO-STAGE FFL MASTS

PIN TYPE

H70-80XL & H90XLS



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SIDESHIFT CARRIAGE

THREE-STAGE FFL & TWO-STAGE FFL MASTS

PIN TYPE

H70-80XL & H90XLS

KEY:
A: 48 Inch Carriage
B: 62 Inch Carriage

REF		PART NO.	NAME OF PART	QTY A	QTY B
	a	373225	Carriage (48 in)	1	..
	b	368156	Carriage (48 in)	1	..
	b	368157	Carriage (62 in)	..	1
1	a	373233	Frame (48 in)	1	..
1	b	341302	Frame (48 in)	1	..
1	b	341303	Frame (62 in)	..	1
1		341144	Stub Shaft	6	6
2		161278	Roller	2	2
2		161280	Bearing	2	2
2		161281	Spacer	1	1
2		161282	Snap Ring	2	2
2		161283	Seal	2	2
3		16006	Grease Fitting	2	2
4		15483	Fitting	2	2
5		161285	Pin	2	2
6		16989	Fitting	3	3
7		15222	Cotter Pin	2	2
8		357579	Chain Anchor	2	2
9		320327	Pin	2	2
10		131358	Snap Ring	2	2
11		327591	Pin	2	2
12		1307614	Hose	1	..
12		135788	Hose	..	1
13		1307615	Hose	1	..
13		95733	Hose	..	1
14	b	16989	Fitting	..	1
15		....	Sideshift Cylinder	1	1
			☞ Figure 207 & Figure 208		
16		246709	Locknut	2	2
17		297101	Apron (48 in)	1	..
17		171430	Apron (62 in)	..	1
18		16691	Capscrew	8	8
18		15155	Lockwasher	8	8
18		131896	Shim (.028 in)	2	2
19		297102	Lock Pin	2	..
19		129004	Lock Pin	..	2
19		69197	Spring	1	1
19		61141	Ball	1	1
20		319323	Guard.LH (Not Shown) See Ref 26	1	1
21		317292	Spacer	4	4
22		19868	Spring Pin	1	1
23		18518	Capscrew	4	4
23		15155	Lockwasher	4	4
24	c	1333648	Load Roller (A, Standard Size)	6	6
24	c	1343010	Load Roller (B, 0.030 in Oversize, Optional)	ARAR	
24	c	1343011	Load Roller (C, 0.060 in Oversize, Optional)	ARAR	
25		126765	Shim (.020 in)	ARAR	
25		366116	Spacer	2	2
25		187489	Snap Ring	6	6
26		319322	Guard, RH	1	1
27		66467	Pin	2	..
27		171481	Pin	..	2
28		294895	Bar	2	..
28		171477	Bar	..	2
29		34507	Snap Ring	4	4
30		129002	Bearing	4	4
31		129003	Roller	4	4
32		24702	Snap Ring	8	8
33		16001	Fitting	2	2
34		244005	Roller	2	2
35		66333	Spring Pin	2	2
36		244009	Pin	2	2
37		244008	Roller Bracket	2	2
37		192424	Shim (0.030 in)	ARAR	
37		192425	Shim (0.062 in)	ARAR	
38		292528	Capscrew	4	4
38		292683	Lockwasher	4	4
39		37562	Screw	2	4
39		15158	Lockwasher	2	4
39		116692	Plate	1	2
40	b	16989	Fitting	3	..
41	a	16989	Fitting	2	..

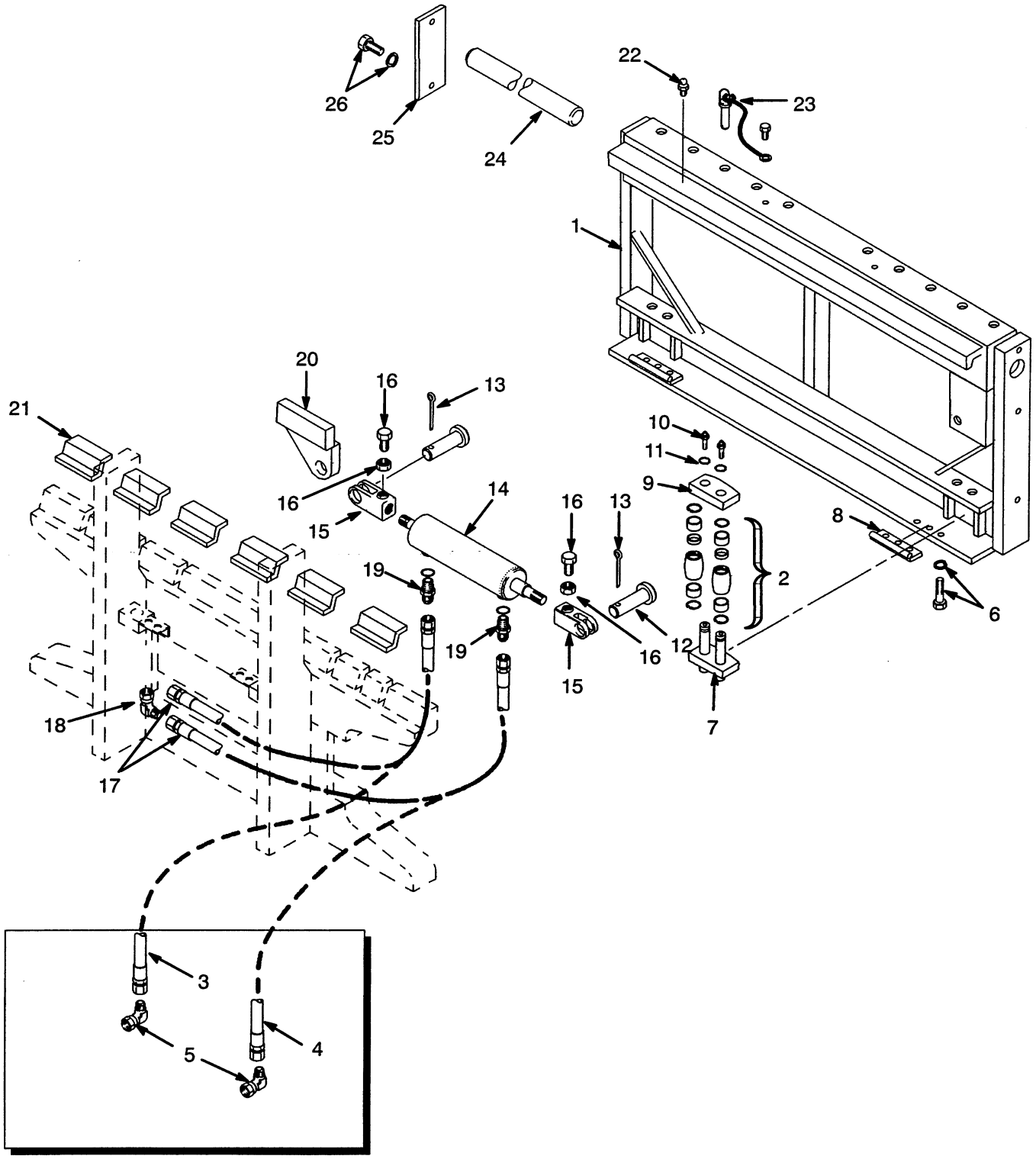
a Two-Stage Full Free Lift Mast
b Three-Stage Full Free Lift Mast
c The Letter Is Stamped On The Inside Face Of The Load Roller.

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SIDESHIFT CARRIAGE (FIGURE 206)

PIN TYPE

H90-110XL



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SIDESHIFT CARRIAGE

PIN TYPE

H90-110XL

KEY:
A: 48 Inch Carriage
B: 62 Inch Carriage

REF		PART NO.	NAME OF PART	QTY A	QTY B
		313662	Carriage (48 in)	1	..
		313663	Carriage (62 in)	..	1
1		313654	Frame (48 in)	1	..
1		313656	Frame (62 in)	..	1
2		161278	Roller	4	4
2		161280	Bearing	2	2
2		161281	Spacer	1	1
2		161282	Snap Ring	2	2
2		161283	Seal	2	2
3	a	62742	Hose	1	1
4	a	95733	Hose	1	1
5	a	16989	Fitting	2	2
6		16829	Capscrew	6	6
6		15158	Lockwasher	6	6
7		312444	Pin	2	2
8		322096	Retainer	2	2
9		312442	Plate	2	2
10		16008	Grease Fitting	4	4
11		131358	Snap Ring	4	4
12		178	Pin	2	2
13		15234	Cotter Pin	2	2
14		....	Side-Shift Cylinder ☞ Figure 207 & Figure 208	1	1
15		119695	Rod End	2	2
16		16828	Capscrew	2	2
16		15086	Nut	2	2
17	b	198833	Hose	2	2
18	b	16989	Fitting	2	2
19		131460	Fitting	2	2
19		16483	O-Ring	1	1
20		332988	Bracket	1	1
21		313658	Bearing	6	6
22		16001	Fitting	2	2
23		117329	Lock Pin	2	2
24		308180	Pin	2	..
24		308182	Pin	..	2
25		66468	Keeper Plate	2	2
26		16804	Capscrew	4	4
26		15160	Lockwasher	4	4

a Two-Stage Limited Free Lift Mast

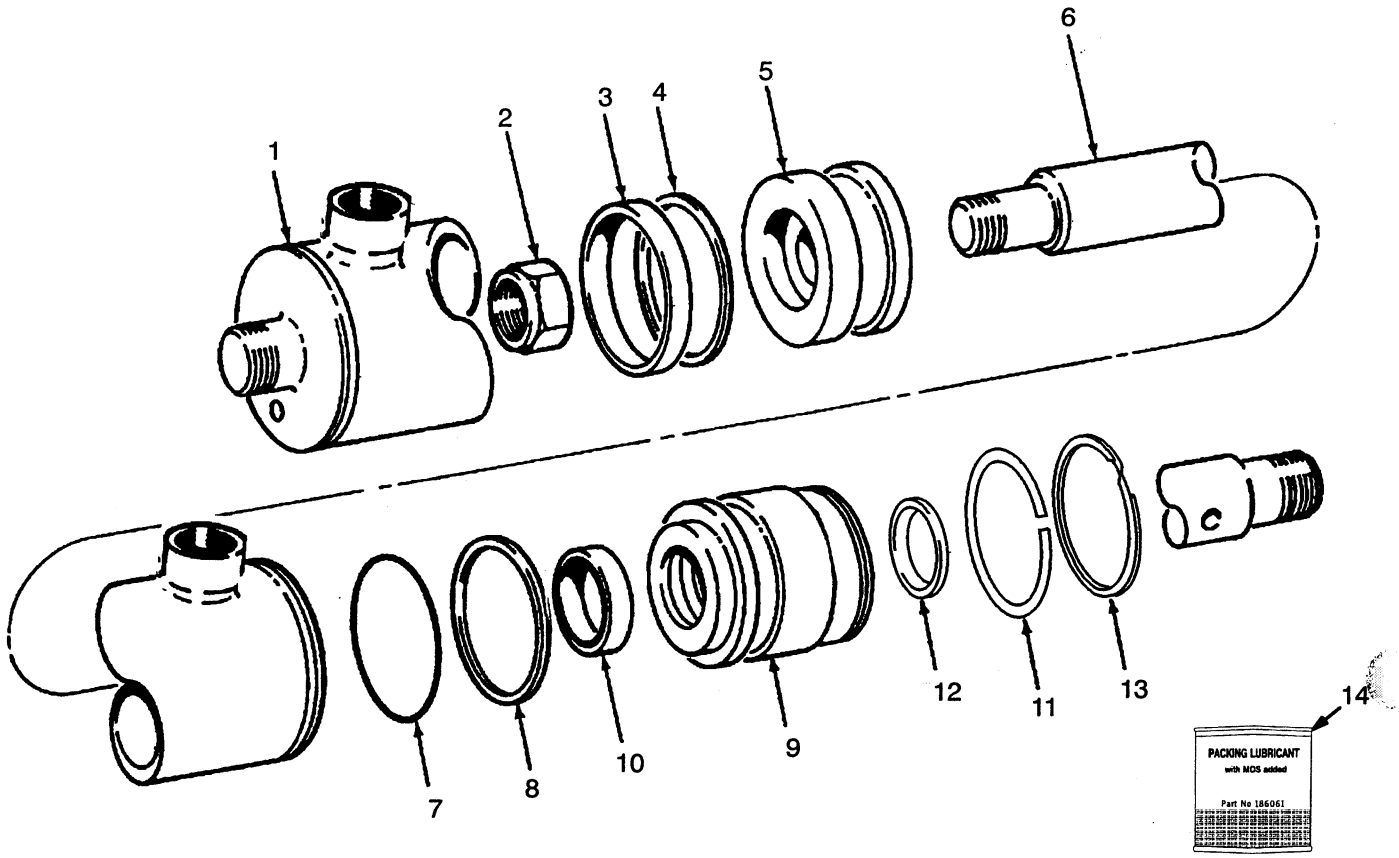
b Two-Stage Full Free Lift And Three-Stage Full Free Lift Masts

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SIDESHIFT CYLINDER (FIGURE 207)

PIN TYPE

IDENTIFY BY PART NUMBER



REF		PART NO.	NAME OF PART	QTY
		1325116	Cylinder	1
1		333645	Shell	1
2		43299	Nut	1
3	a	270077	Seal	1
4	a	638249	Back-Up Ring	1
5		332795	Piston	1
6		333646	Rod	1
7	a	59229	O-Ring	1
8	a	615130	Back-Up Ring	1
9		1332506	Retainer	1
10	a	239145	Seal	1
11		332797	Retaining Ring	1
12	a	636852	Wiper	1
13		12960	Snap Ring	1
14		186061	Packing Lubricant	AR

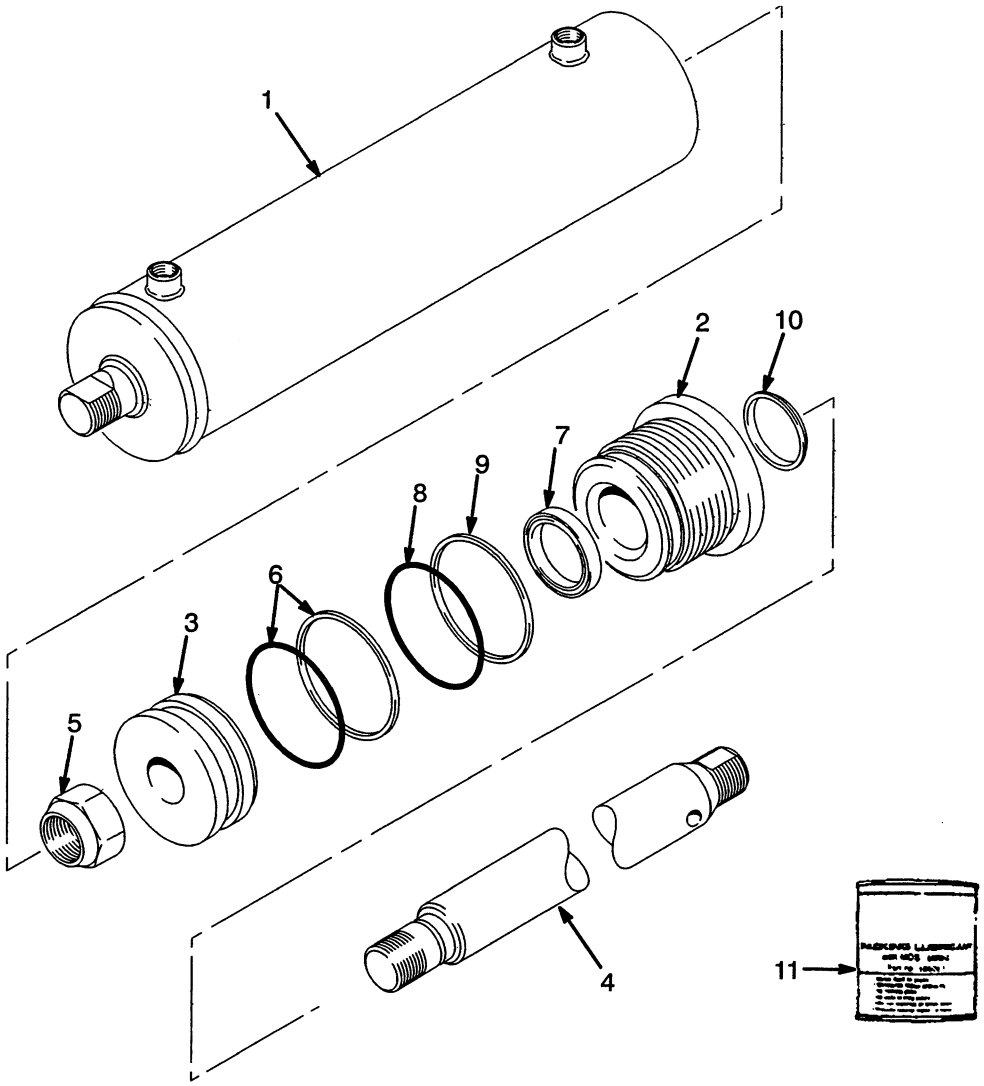
a Included In Repair Kit 332798

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SIDESHIFT CYLINDER (FIGURE 208)

PIN TYPE

IDENTIFY BY PART NUMBER



REF		PART NO.	NAME OF PART	QTY
		2013098	Cylinder Assembly	1
1		1338746	Tube	1
2		1338747	Gland	1
3		1338748	Piston	1
4		1338749	Rod	1
5		2306366	Locknut	1
6	a	1351184	Seal Set	1
7	a	1351185	Rod Seal	1
8	a	59229	O-Ring	1
9	a	615130	Back-Up Ring	1
10	a	1351186	Rod Wiper	1
11		186061	Packing Lubricant	AR

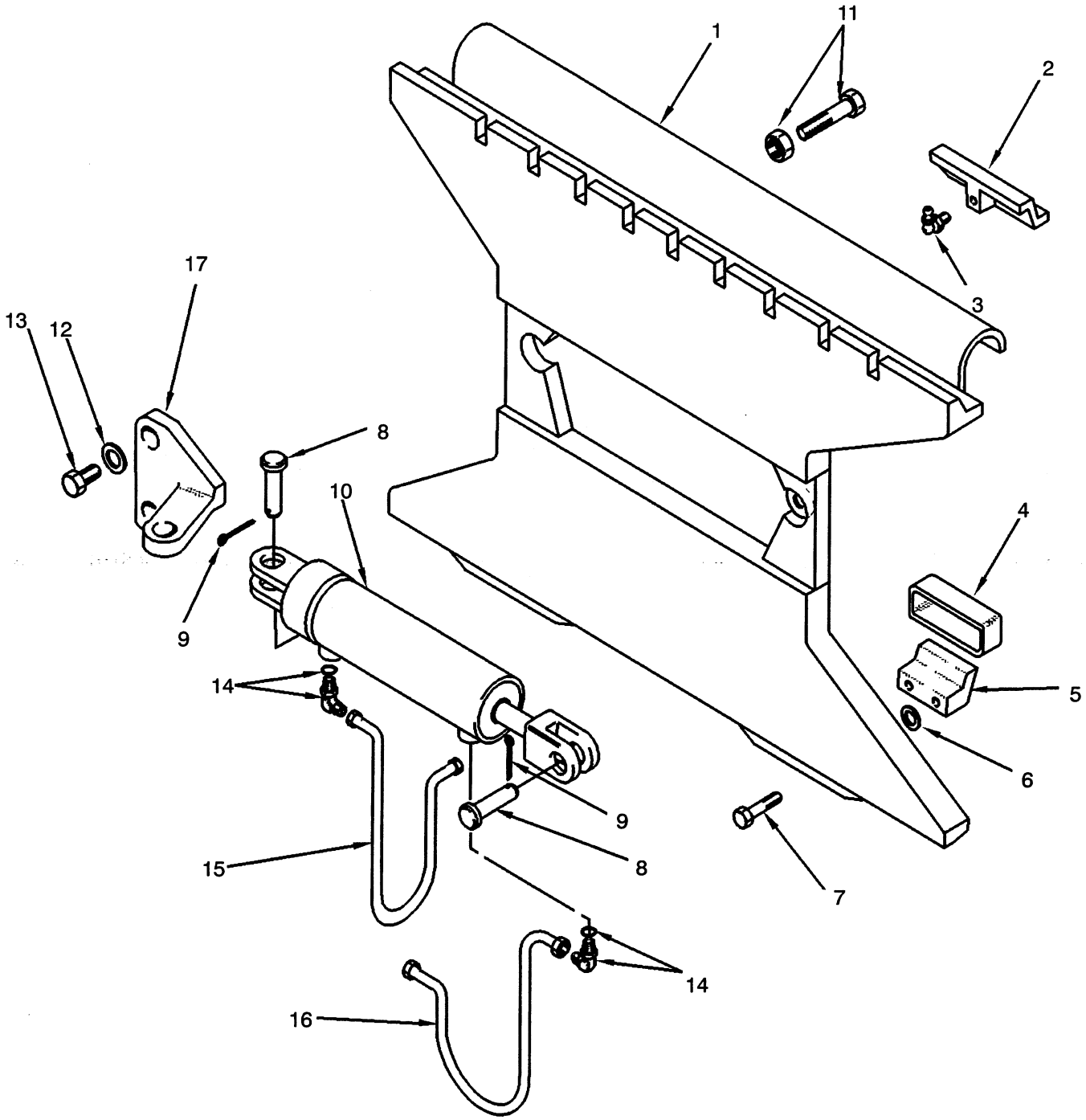
a Included In Seal Kit 1351175

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SIDESHIFT CARRIAGE (FIGURE 209)

HOOK TYPE

TWO-STAGE LFL MAST



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SIDESHIFT CARRIAGE

HOOK TYPE

TWO-STAGE LFL MAST

KEY:
A: 42 Inch Carriage
B: 48 Inch Carriage

REF		PART NO.	NAME OF PART	QTY A	QTY B
		1319662	Carriage (42 in)	1	..
		1319663	Carriage (48 in)	..	1
1		1312674	Apron (42 in)	1	..
1		1312673	Apron (48 in)	..	1
2		373472	Bearing	4	4
3		16046	Grease Fitting	4	4
4		351458	Bearing Block	2	2
5		343961	Carriage Hook	2	2
6		296426	Washer	4	4
7		1307610	Capscrew	4	4
8		172	Rod-End Pin	2	2
9		15234	Cotter Pin	2	2
10		....	Sideshift Cylinder ☞ Figure 213	1	1
11		292582	Capscrew	2	2
11		296136	Nut	2	2
12		296430	Washer	2	2
13		332462	Capscrew	2	2
14		96521	Fitting	2	2
14		16483	O-Ring	1	1
15	a	379805	Tube, RH	1	1
15	b	385494	Tube, RH	1	1
16	a	379804	Tube, LH	1	1
16	b	385493	Tube, LH	1	1
17		1301948	Bracket	1	1

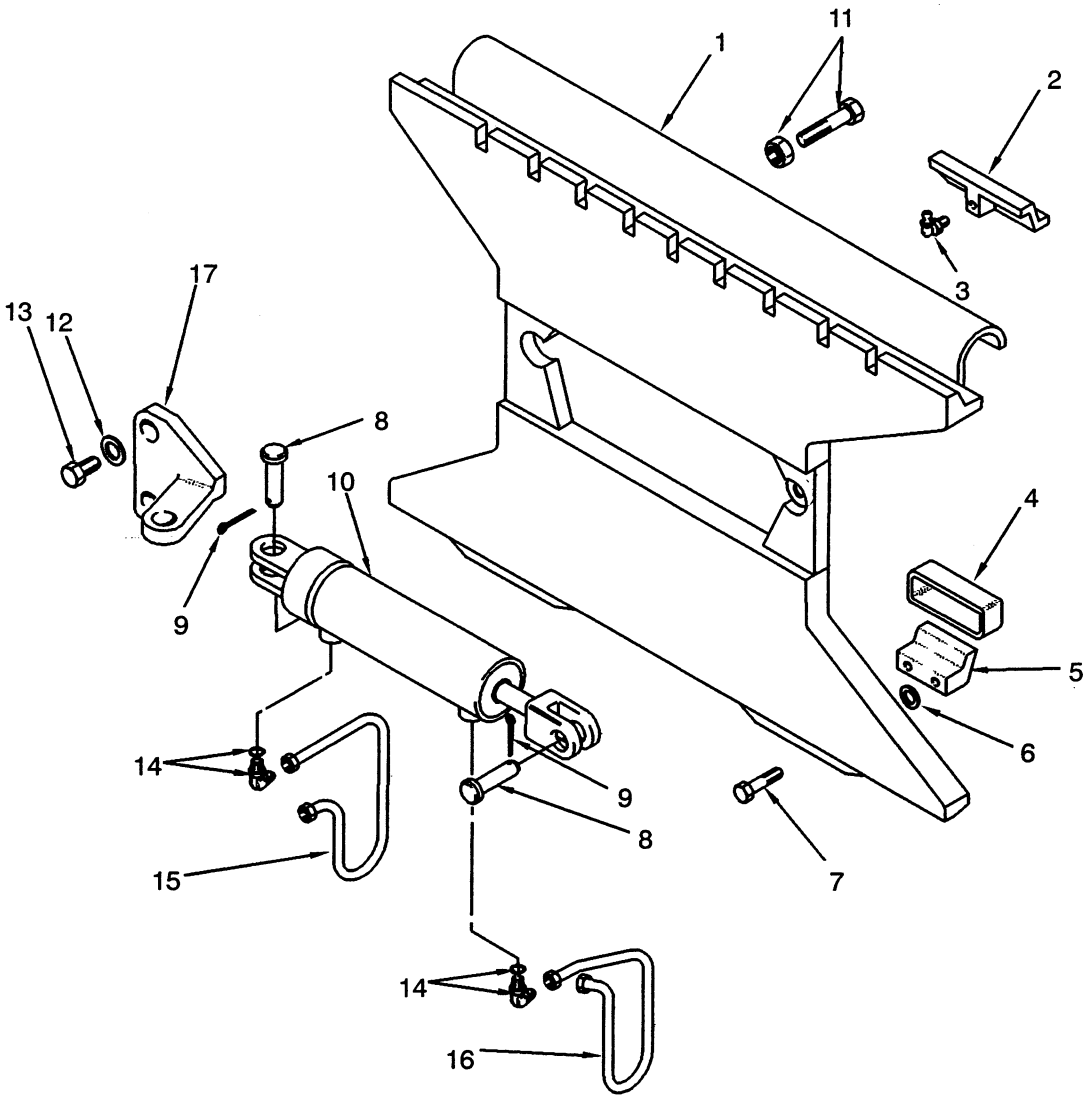
a H70-80XL & H90XLS
b H90-100XL

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SIDESHIFT CARRIAGE (FIGURE 210)

HOOK TYPE

THREE-STAGE FULL FREE LIFT MAST



©1999 HYSTER COMPANY

SIDESHIFT CARRIAGE

HOOK TYPE

THREE-STAGE FULL FREE LIFT MAST

KEY:
A: 42 Inch Carriage
B: 48 Inch Carriage

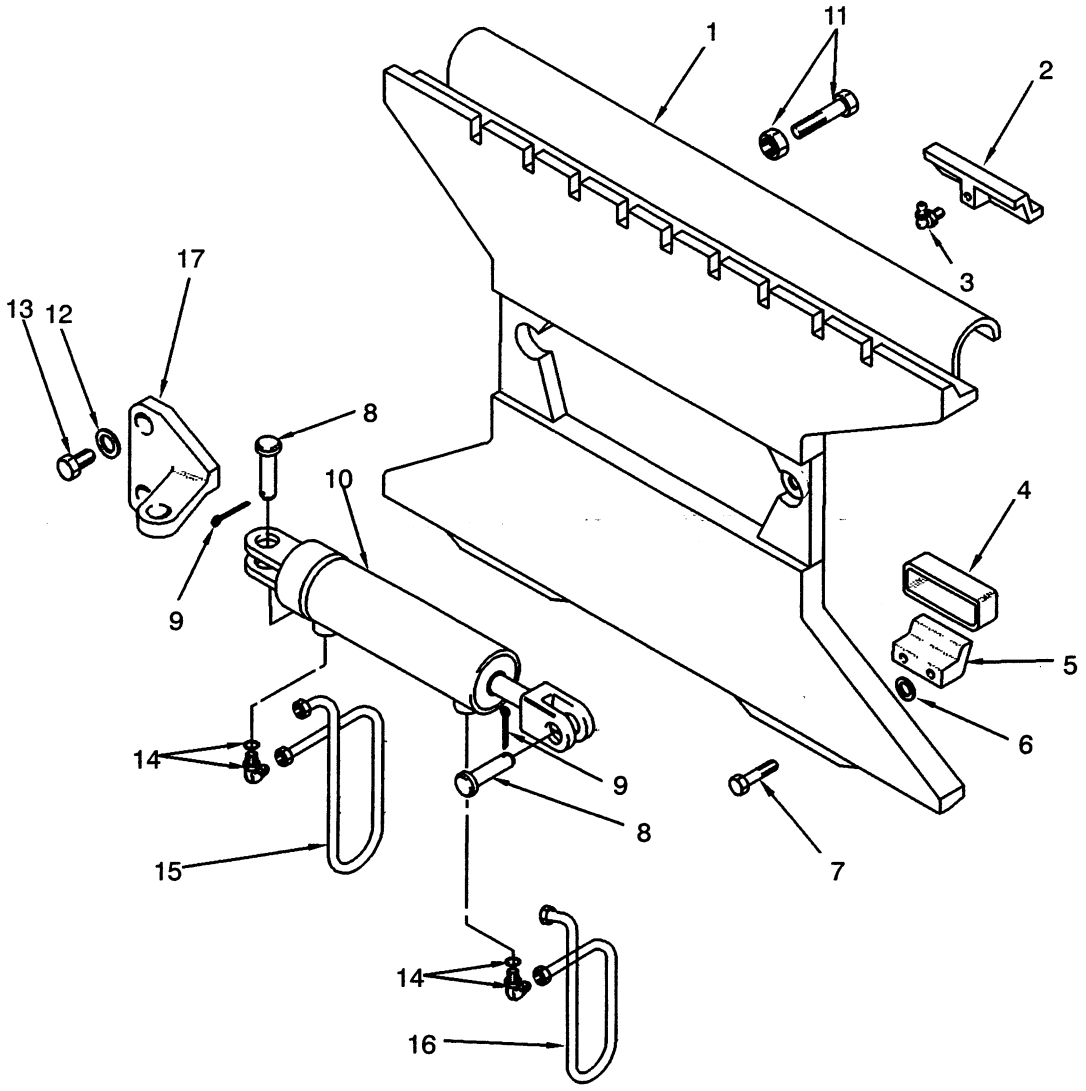
REF	PART NO.	NAME OF PART	QTY A	QTY B
	1319662	Carriage (42 in)	1	..
	1319663	Carriage (48 in)	..	1
1	1312674	Apron (42 in)	1	..
1	1312673	Apron (48 in)	..	1
2	373472	Bearing	4	4
3	16046	Grease Fitting	4	4
4	351458	Bearing Block	2	2
5	343961	Hook	2	2
6	296426	Flatwasher	4	4
7	1307610	Capscrew	4	4
8	172	Rod End Pin	2	2
9	15234	Cotter Pin	2	2
10	....	Sideshift Cylinder ☞ Figure 213	1	1
11	292582	Capscrew	2	2
11	296136	Nut	2	2
12	296430	Washer	2	2
13	332462	Capscrew	2	2
14	96521	Fitting	2	2
14	16483	O-Ring	1	1
15	379807	Tube	1	1
16	1300700	Tube	1	1
17	377654	Bracket	1	1

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SIDESHIFT CARRIAGE (FIGURE 211)

HOOK TYPE

TWO-STAGE FULL FREE LIFT MAST



©1999 HYSTER COMPANY

SIDESHIFT CARRIAGE

HOOK TYPE

TWO-STAGE FULL FREE LIFT MAST

KEY:
A: 42 Inch Carriage
B: 48 Inch Carriage

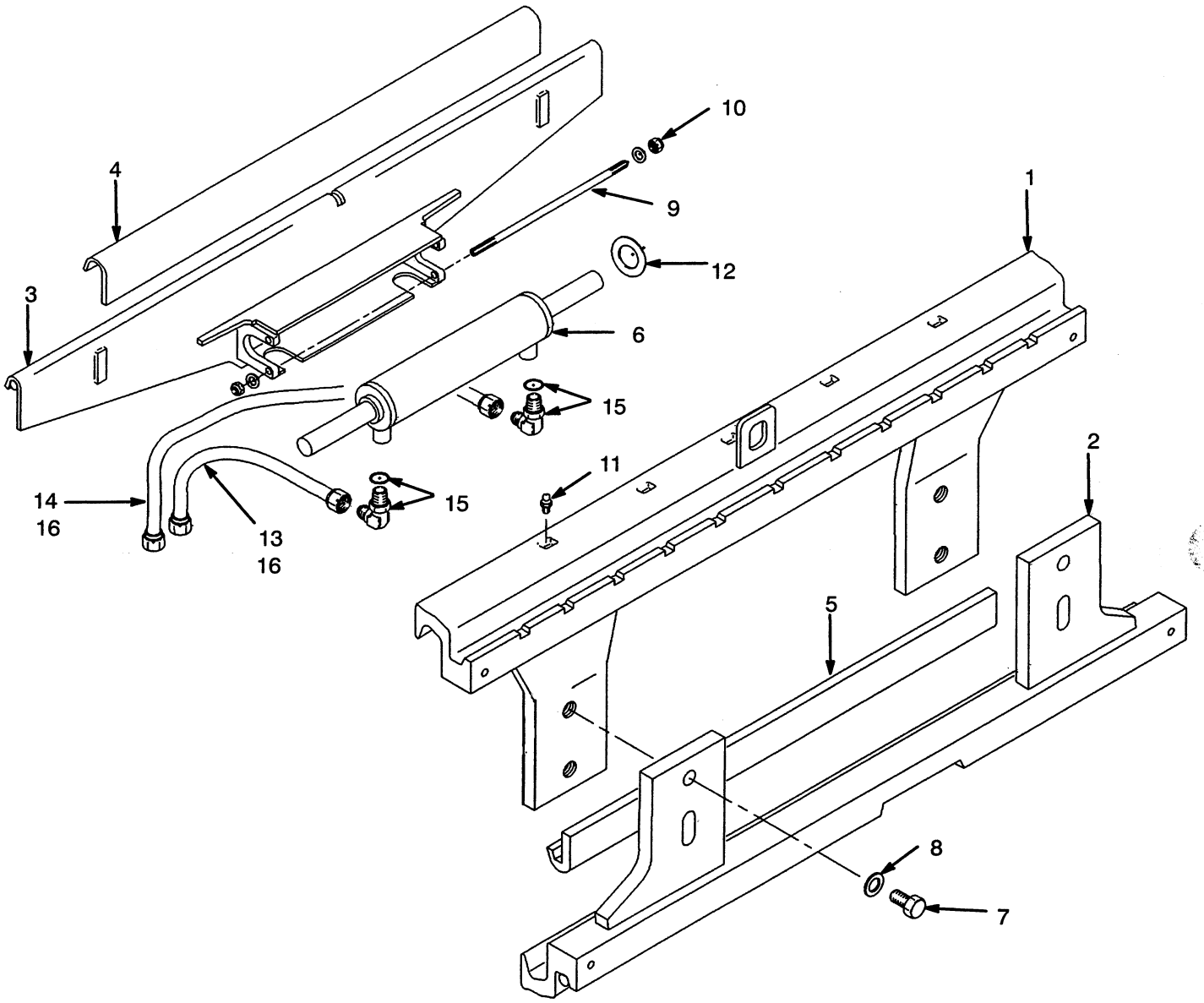
REF		PART NO.	NAME OF PART	QTY A	QTY B
		1319662	Carriage (42 in)	1	..
		1319663	Carriage (48 in)	..	1
1		1312674	Apron (42 in)	1	..
1		1312673	Apron (48 in)	..	1
2		373472	Bearing	4	4
3		16046	Grease Fitting	4	4
4		351458	Bearing Block	2	2
5		343961	Hook	2	2
6		296426	Flatwasher	4	4
7		1307610	Capscrew	4	4
8		172	Rod-End Pin	2	2
9		15234	Cotter Pin	2	2
10		....	Sideshift Cylinder ☞ Figure 213	1	1
11		292582	Capscrew	2	2
11		296136	Nut	2	2
12		296430	Washer	2	2
13		332462	Capscrew	2	2
14		96521	Fitting	2	2
14		16483	O-Ring	1	1
15	a	379809	Tube	1	1
15	b	1301915	Tube	1	1
16	a	379808	Tube	1	1
16	b	1301914	Tube	1	1
17		1301948	Bracket	1	1

a H70-80XL & H90XLS
b H90-100XL Attachment

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SIDESHIFT CARRIAGE (FIGURE 212)

SERIES 1356000



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See Service Manual
for service procedures

SIDESHIFT CARRIAGE

SERIES 1356000

REF		PART NO.	NAME OF PART	QTY
	e	1356882	Carriage (42 in)	1
	f	1399048	Carriage (42 in)	1
	e	1356883	Carriage (48 in)	1
	f	1399052	Carriage (48 in)	1
		1360302	Carriage (60 in)	1
1		1355547	Weldment (Top, 42 in)	1
1		1355548	Weldment (Top, 48 in)	1
1		1360300	Weldment (Top, 60 in)	1
2		1378072	Weldment (Bottom, 42 in)	1
2	f	1396431	Shim	6
2		1378075	Weldment (Bottom, 48 in)	1
2	f	1396434	Shim	6
2		1368078	Weldment (Bottom, 60 in)	1
2	f	1396437	Shim	6
3	e	1397277	Support (42 in)	1
3	f	1399023	Support (42 in)	1
3	e	1397280	Support (48 in)	1
3	f	1399026	Support (48 in)	1
3		1397282	Support (60 in)	1
4	e	1356902	Bearing (Top, 42 in)	1
4	f	1396471	Bearing (Top, 42 in)	1
4	e	1356903	Bearing (Top, 48 in)	1
4	f	1396475	Bearing (Top, 48 in)	1
4		1360303	Bearing (Top, 60 in)	1
5		1378082	Bearing (Bottom, 42 in)	1
5		1356897	Bearing (Bottom, 48 in)	1
5		1356898	Bearing (Bottom, 60 in)	1

REF		PART NO.	NAME OF PART	QTY
6		.....	Sideshift Cylinder ☞ Figure 214	1
7		1360229	Capscrew	4
8		296435	Flatwasher	4
9		1371289	Capscrew	2
9		1358809	Threaded Rod (Optional)	2
10		313828	Nut	2
11		16041	Grease Fitting	5
12		1358821	Shim (0.020 in)	4
13	a	1360236	Hose	1
14	a	1360237	Hose	1
15		201779	Fitting	2
15		16481	O-Ring	1
16	bc	136023[4]	Hose	2
16	d	1360235	Hose	2

a 2-Stage Limited Free Lift

b 3-Stage Full Free Lift

c 2-Stage Full Free Lift (H70-80XL & H90XLS)

d 2-Stage Full Free Lift (H90-100XL)

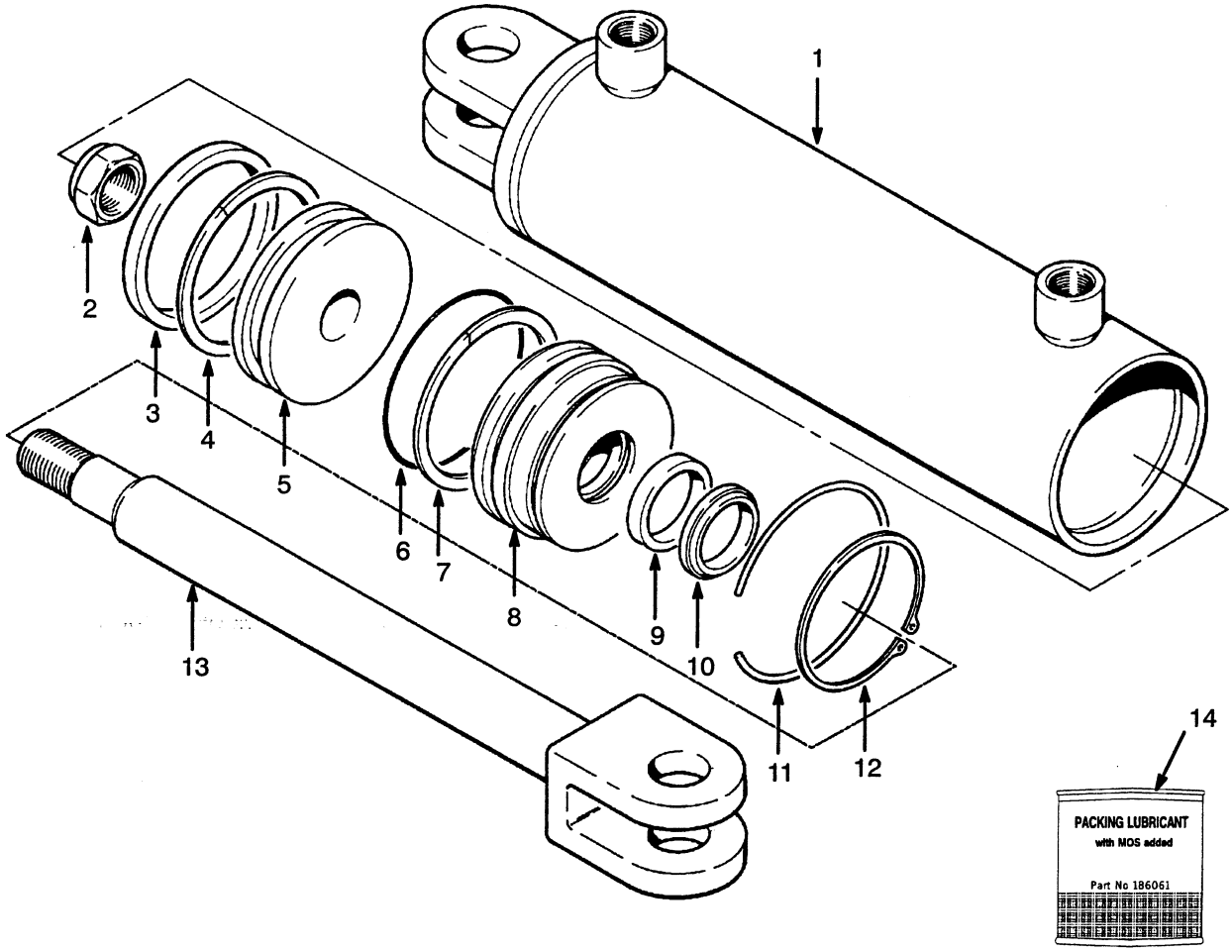
e Last Used On S/N A510D-9390,A511D-9390, A512D-9390
(Excluding 9391, 9394, 9395, And 9397)
(Including 9392, 9393, And 9396)

f First Used On S/N A510D-9391, A511D-9391, A512D-9391
(Including 9394, 9395, And 9397)
(Excluding 9392, 9393, And 9396)

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SIDESHIFT CYLINDER (FIGURE 213)

HOOK TYPE



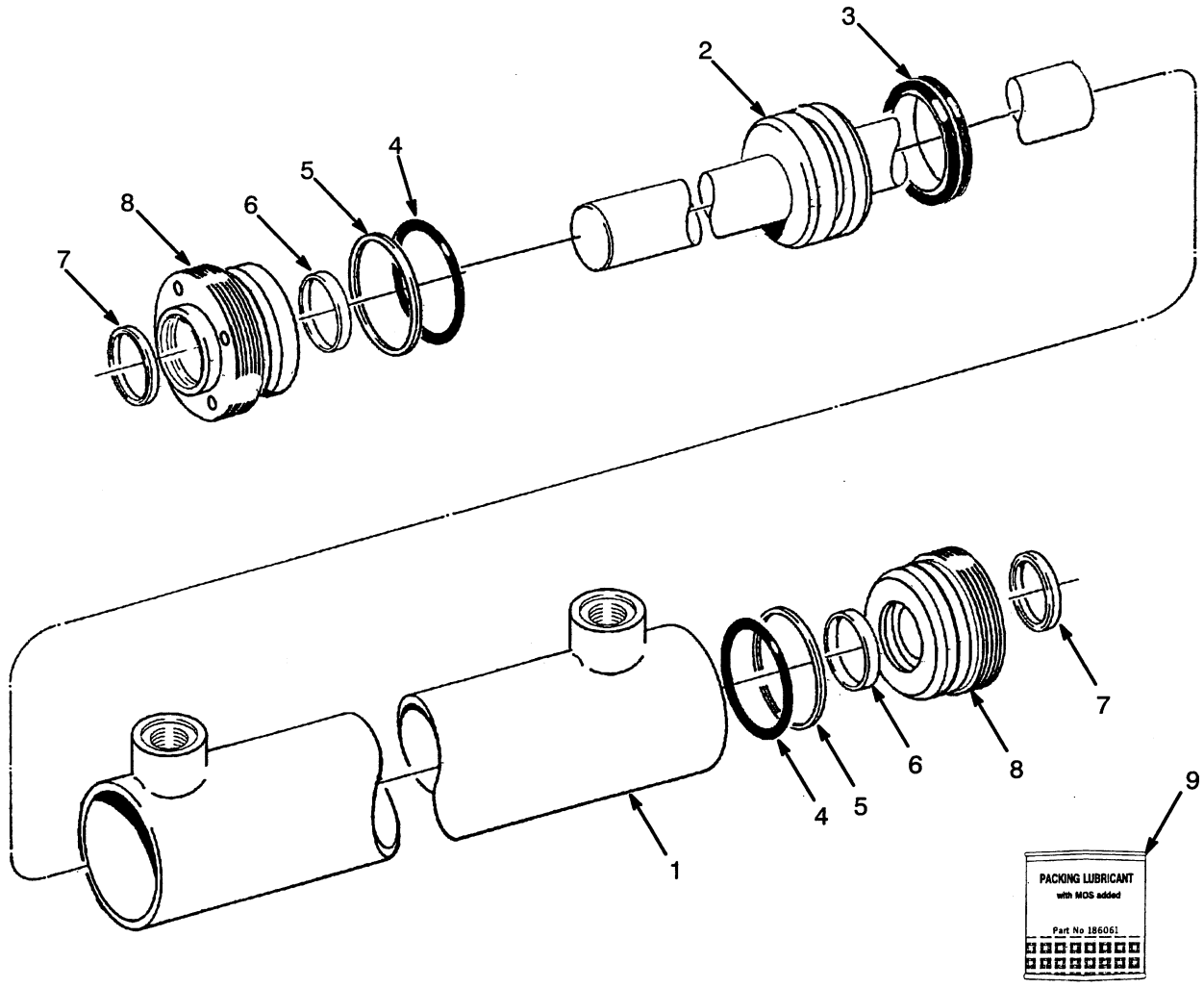
REF		PART NO.	NAME OF PART	QTY
		347713	Cylinder	1
1		347719	Shell	1
2		248320	Locknut	1
3	a	215904	Seal	1
4	a	215929	Back-Up Ring	1
5		347714	Piston	1
6	a	57664	O-Ring	1
7	a	276627	Back-Up Ring	1
8		347715	Retainer	1
9	a	239145	Rod Seal	1
10	a	636852	Wiper Ring	1
11		348035	Ring	1
12		12917	Snap Ring	1
13		347721	Rod	1
14		186061	Packing Lubricant	AR

a Included in Repair Kit 375322

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SIDESHIFT CYLINDER (FIGURE 214)

SERIES 1360000



REF		PART NO.	NAME OF PART	QTY
		1360126	Cylinder	1
1		2304345	Shell	1
2		2303634	Rod	1
3		1351184	Seal	1
4	a	59229	O-Ring	2
5	a	615130	Back-Up Ring	2
6	a	294643	Seal	2
7	a	636851	Wiper	2
8		2306283	Gland	2
9		186061	Packing Lubricant	AR

a Included in Seal Kit 2307647

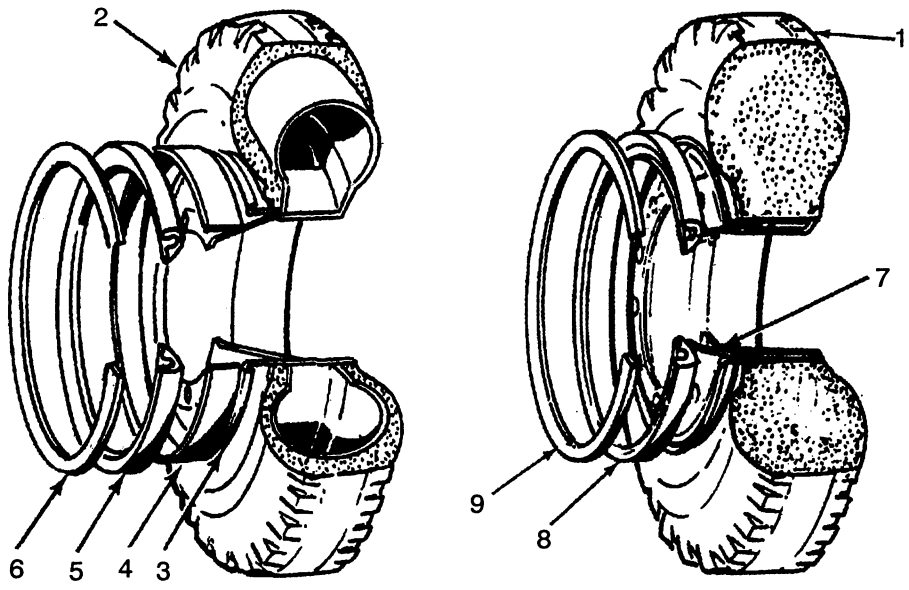
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TIRES AND WHEELS (FIGURE 215)

SINGLE DRIVE WHEEL

H70-80XL & H90XLS

LEMMERZ BRAND WHEELS



DO NOT MIX ADVANCE AND LEMMERZ WHEELS OR COMPONENTS ON ANY ONE UNIT

REF NO	NAME OF PART 1 2 3 4	250 x 15 SOLID	[b] 250 x 15 16 PLY	[c] 250 x 15 18 PLY	250/70 R15 RADIAL	QTY
		PART NO.				
1	Tire (Standard Hardness)	352266	..	..	..	2
2	Tire/Tube	..	352268	..	1337744	2
	Tire	..	352269	1302127	1358184	1
	Tube	..	352270	352270	1358195	1
	Flap	..			1358016	1
	Washer		..	..	1376007	2
3	Wheel 7.50 x 15	[a] 1308865	[a] 352186	[a] 352186	[a] 1308865	2
4	Shoulder Ring	806557	806557	806557	806557	1
5	Side Ring	321124	321124	321124	321124	1
6	Lock Ring	321123	321123	321123	321123	1
7	Wheel 7.50 x 15	[a] 1309083	..	..	..	2
8	Side Ring	321124	..	..	..	1
9	Lock Ring	321123	..	..	..	1

[a] The Part Number is Stamped on The Wheel
[b] H70-80XL
[c] H90XLS

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TIRES AND WHEELS

SINGLE DRIVE WHEEL

LEMMERZ BRAND WHEELS

H90-110XL

DO NOT MIX ADVANCE AND LEMMERZ WHEELS OR COMPONENTS ON ANY ONE UNIT

REF NO	NAME OF PART 1 2 3 4	300 x 15 SOLID	300 x 15 18 PLY	315/70 R15 RADIAL	QTY
		PART NO.			
1	Tire (Standard Hardness)	336123	..	..	2
2	Tire/Tube	..	321043	1337745	2
	Tire	..	321044	1358185	1
	Tube	..	321045	1358192	1
	Flap	..	..	1358016	1
	Washer		..	.1376007	2
3	Wheel 8.00 x 15	[a] 1308866	[a] 352185	[a] 1308866	2
4	Shoulder Ring	806557	806557	806557	1
5	Side Ring	321124	321124	321124	1
6	Lock Ring	321123	321123	321123	1
7	Wheel 8.00 x 15	[a] 1309084	..	..	2
8	Side Ring	321124	..	..	1
9	Lock Ring	321123	..	..	1

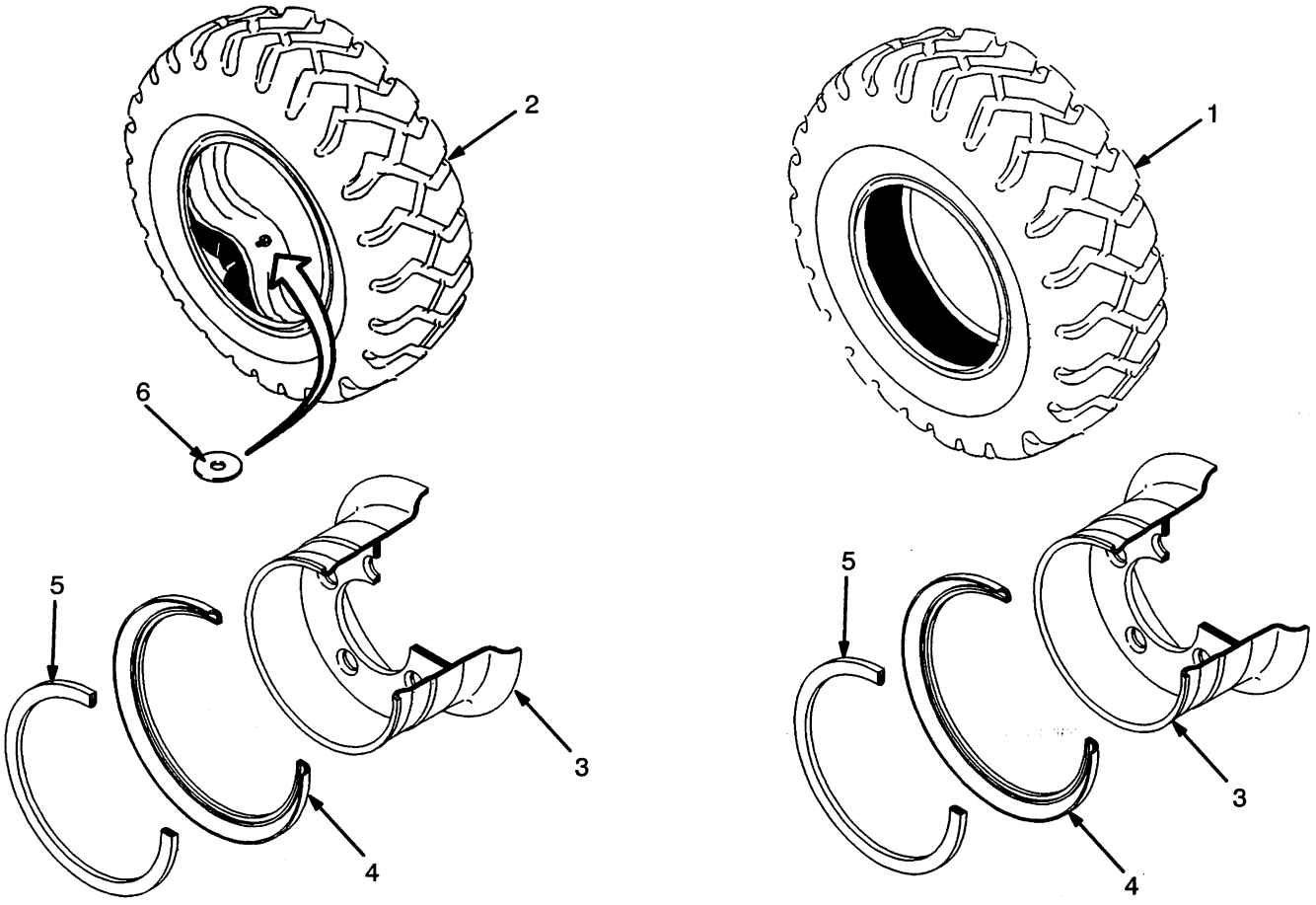
[a] The Part Number is Stamped on The Wheel

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TIRES AND WHEELS (FIGURE 216)

SINGLE DRIVE WHEEL

ADVANCE BRAND WHEELS



DO NOT MIX ADVANCE AND LEMMERZ WHEELS OR COMPONENTS ON ANY ONE UNIT

REF NO	NAME OF PART 1 2 3 4	250 x 15 SOLID	[b] 250 x 15 16 PLY	[c] 250 x 15 18 PLY	QTY
		PART NO.			
1	Tire (Standard Hardness)	352266	..	..	2
2	Tire/Tube	..	352268	..	2
	Tire	..	352269	1302127	1
	Tube	..	352270	352270	1
3	Wheel 7.50 x 15	[a] 1342668	[a] 1342668	[a] 1342668	2
4	Side Ring	322637	322637	322637	1
5	Lock Ring	322638	322638	322638	1

[a] The Part Number is Stamped on The Wheel

[b] H70-80XL

[c] H90XLS

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TIRES AND WHEELS

SINGLE DRIVE WHEEL

ADVANCE BRAND WHEELS

H90-110XL

DO NOT MIX ADVANCE AND LEMMERZ WHEELS OR COMPONENTS ON ANY ONE UNIT

REF NO	NAME OF PART 1 2 3 4	300 x 15 SOLID	300 x 15 18 PLY	315/70 R15 RADIAL	QTY
		PART NO.			
1	Tire (Standard Hardness)	336123	..	..	2
2	Tire/Tube	..	321043	1337745	2
	Tire	..	321044	1358185	1
	Tube	..	321045	1358192	1
	Flap	..	..	1358016	1
3	Wheel 8.00 x 15	[a] 1342669	[a] 1342669	[a] 1342669	2
4	Side Ring	322637	322637	322637	1
5	Lock Ring	322638	322638	322638	1
6	Washer		..	1376007	2

REF NO	NAME OF PART 1 2 3 4	250/70 R15 RADIAL	QTY
1	Tire (Standard Hardness)		2
2	Tire/Tube	1337744	2
	Tire	1358184	1
	Tube	1358195	1
	Flap	1358016	1
3	Wheel 8.00 x 15	[a] 1342668	2
4	Side Ring	322637	1
5	Lock Ring	322638	1
6	Washer	1376007	2

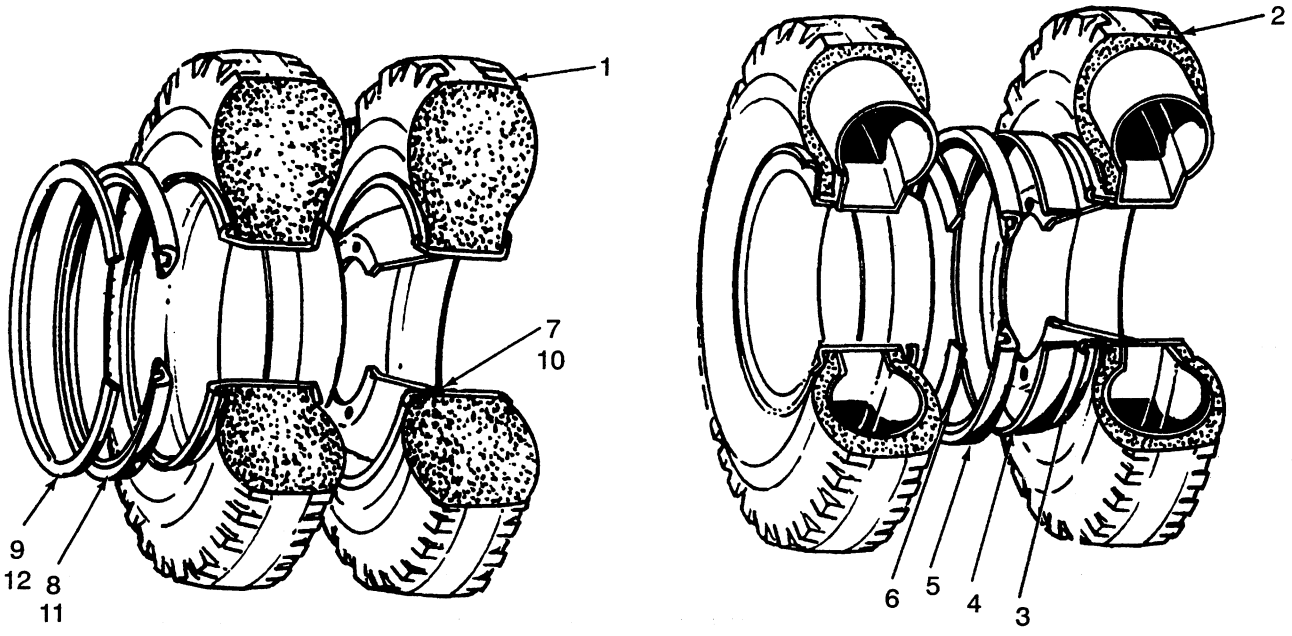
[a] The Part Number is Stamped on The Wheel

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TIRES AND WHEELS (FIGURE 217)

DUAL DRIVE WHEEL

H70-80XL & H90XLS



REF NO	NAME OF PART 1 2 3 4	7.00 x 15 SOLID	29 x 8 - 15 18 PLY	QTY
		PART NO.		
1	Tire (Standard Hardness)	174214	..	4
2	Tire/Tube	..	137134	4
	Tire	..	137135	1
	Tube	..	137136	1
	Flap	..	..	1
	Washer			1
3	Wheel 5.50 x 15	[a] 340293	[a] 340293	4
4	Shoulder Ring	806557	806557	1
5	Side Ring	980541	980541	1
6	Lock Ring	980542	980542	1
7	Wheel 5.50 x 15	[a] 352279	..	4
8	Side Ring	980541	..	1
9	Lock Ring	980542	..	1
10	Wheel 5.50 x 15	[a] 1305123	[a] 1305123	4
11	Side Ring	322637	322637	1
12	Lock Ring	322638	322638	1

[a] The Part Number is Stamped on The Wheel

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TIRES AND WHEELS

DUAL DRIVE WHEEL

H90-110XL

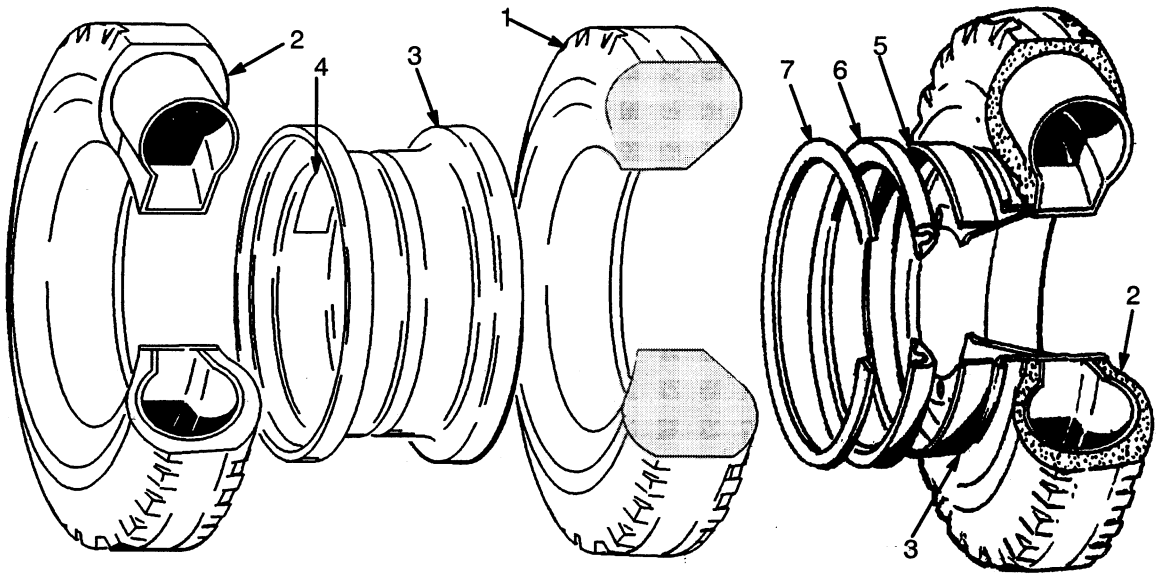
REF NO	NAME OF PART 1 2 3 4	7.50 x 15 SOLID	8.25 x 15 SOLID	7.50 x 15 10 PLY	8.25 x 15 12 PLY	8.25 R15 RADIAL	QTY
		PART NO.					
1	Tire (Standard Hardness)	174212	237050	..	..	..	4
2	Tire/Tube	..	..	130612	130616	1357303	4
	Tire	..	..	68498	129846	1358182	1
	Tube	..	..	11280	25722	1358191	1
	Flap	..	..	..	..	1358016	1
	Washer					1376007	1
3	Wheel 5.50 x 15	[a] 340293	..	[a] 340293	..	..	4
	Wheel 6.50 x 15	..	[a] 340292	..	[a] 340292	[a] 340292	4
4	Shoulder Ring	806557	806557	806557	806557	806557	1
5	Side Ring	980541	980541	980541	980541	980541	1
6	Lock Ring	980542	980542	980542	980542	980542	1
7	Wheel 5.50 x 15	[a] 352279	..	..	..	..	4
	Wheel 6.50 x 15	..	[a] 350060	..	..	..	4
8	Side Ring	980541	980541	..	..	..	1
9	Lock Ring	980542	980542	..	..	..	1
10	Wheel 5.50 x 15	[a] 1305123	..	[a] 1305123	..	..	4
	Wheel 6.50 x 15	..	[a] 1305120	..	[a] 1305120	[a] 1305120	4
11	Side Ring	322637	322637	322637	322637	322637	1
12	Lock Ring	322638	322638	322638	322638	322638	1

[a] The Part Number is Stamped on The Wheel

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TIRES AND WHEELS (FIGURE 218)

STEER WHEEL

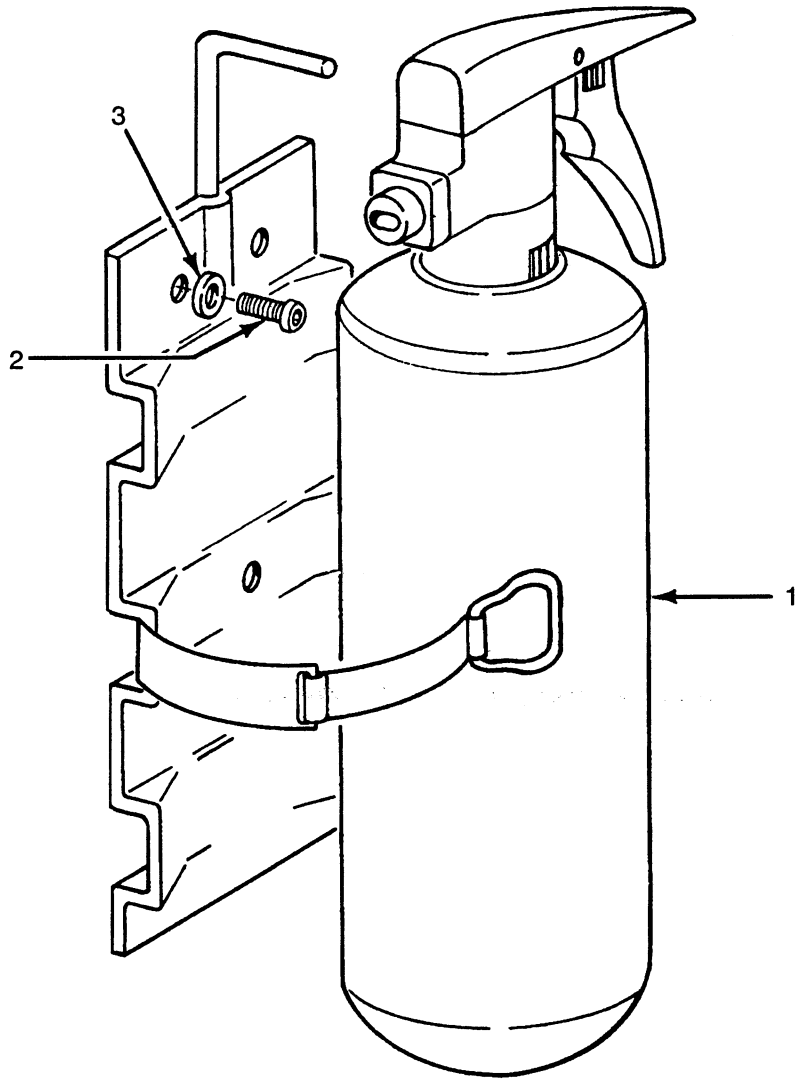


REF NO	NAME OF PART 1 2 3 4	7.00 x 12 SOLID	7.00 x 12 12 PLY	7.00 R12 RADIAL	QTY
		PART NO.			
1	Tire (Standard Hardness)	174209	..	..	2
2	Tire/Tube	..	878727	1337743	2
	Tire	..	878728	1358179	1
	Tube	..	45737	1358190	1
	Flap	..	..	1358019	1
	Washer			1376007	1
3	Wheel 5.00 x 12	[a] 45725 A	[a] 45725 A	[a] 343831	2
4	Warning Label	288638	288638	288638	1
5	Shoulder Ring	..	..	806556	1
6	Side Ring	..	..	161890	1
7	Lock Ring	..	..	161889	1

[a] The Part Number is Stamped on The Wheel

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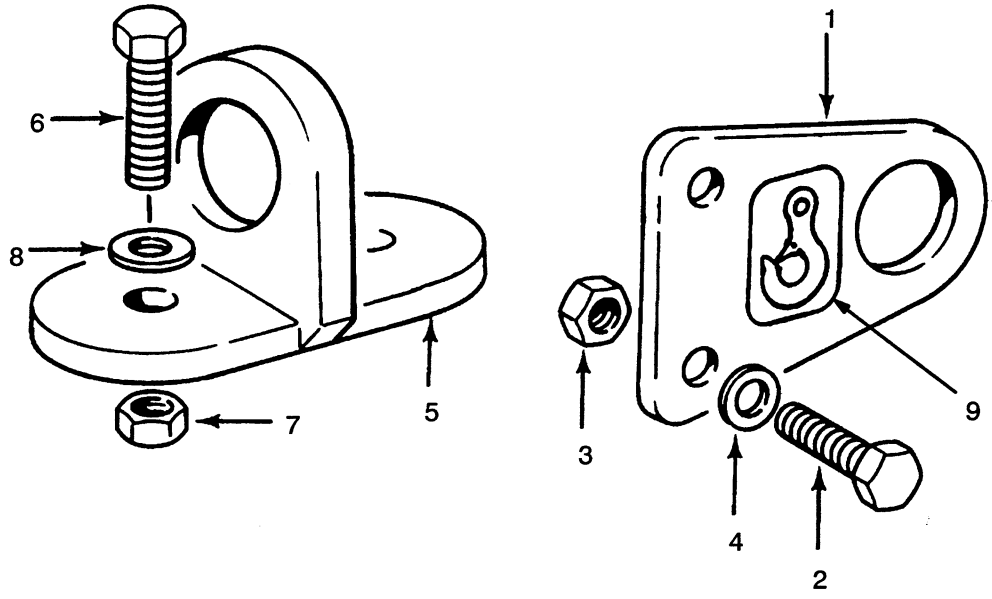
FIRE EXTINGUISHER (FIGURE 219)



REF	PART NO.	NAME OF PART	QTY
1	146540	Extinguisher	1
2	227180	Screw	3
3	15923	Washer	3

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LIFT EYE (FIGURE 220)



KEY:
A: Without Cab
B: With Cab

REF		PART NO.	NAME OF PART	QTY A	QTY B
1		316129	Lifting Plate	2	..
1		353477	Lifting Eye	..	2
2		293706	Capscrew	4	4
3		316829	Nut	4	4
4		296430	Washer	8	8
5		353023	Lifting Eye	1	1
6	a	353460	Capscrew	2	2
6	b	230688	Capscrew	2	2
7		127156	Locknut	2	2
8		221780	Washer	2	2
9		316448	Label	3	3

a H70-100XL
b H110XL

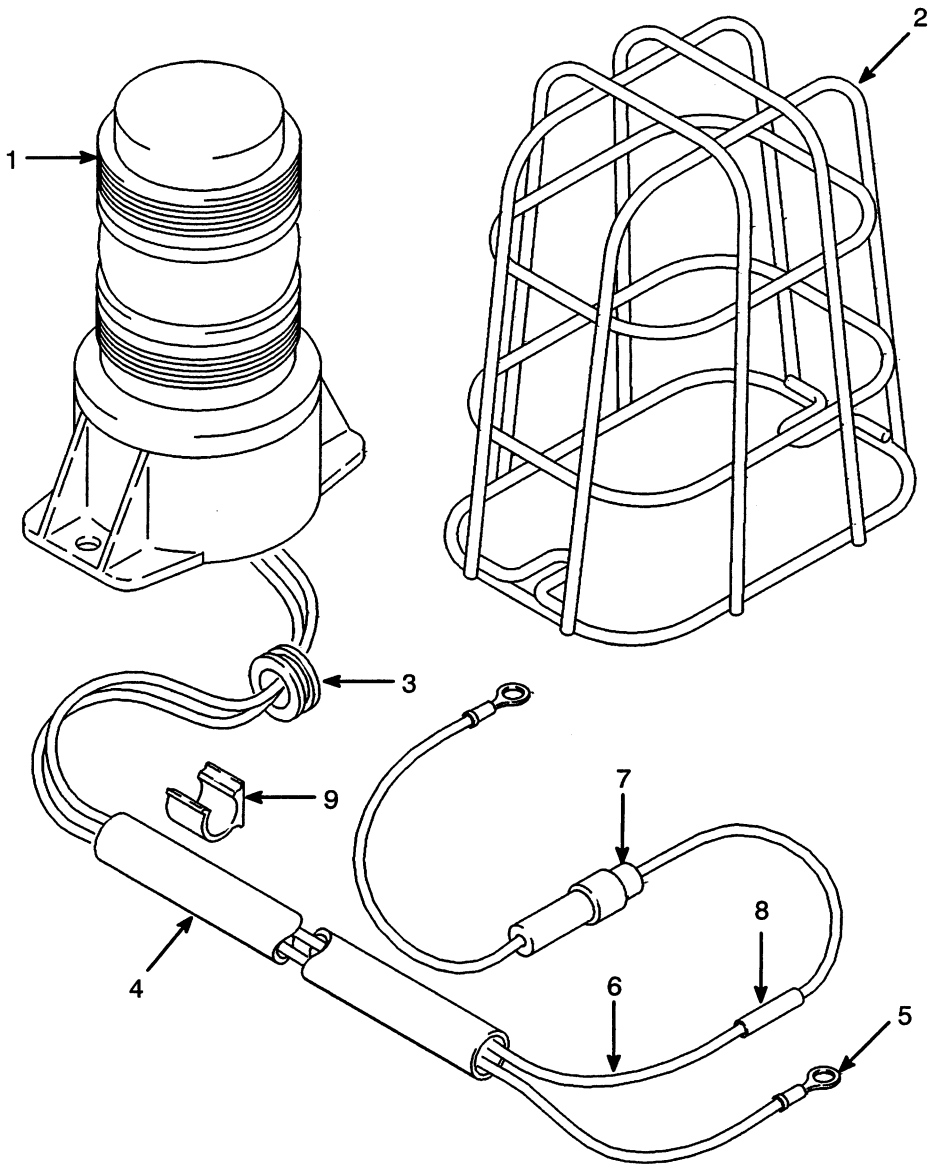
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NOTE

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STROBE LIGHT (FIGURE 221)

MEDIUM INTENSITY



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STROBE LIGHT

MEDIUM INTENSITY

KEY:
A: Tomar
B: Speaker

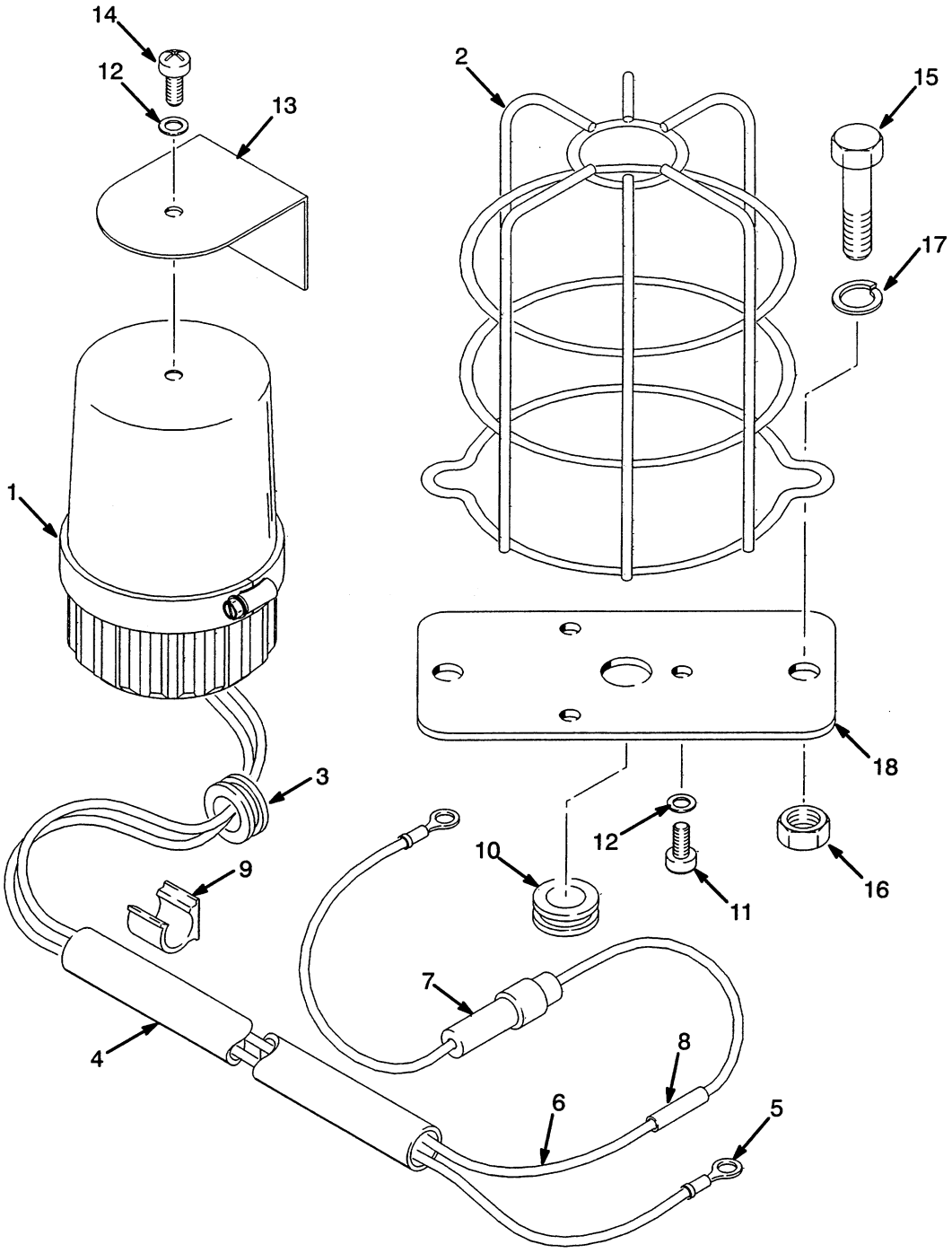
REF		PART NO.	NAME OF PART	QTY A	QTY B
1	a	1307508	Strobe Light	1	..
1	b	1317492	Strobe Light	1	..
1	a	3018106	Strobe Light	..	1
1	b	1317486	Strobe Light	..	1
1		227132	Screw	3	..
1		15855	O-Ring	3	..
1	a	1309776	Lens	1	..
1	b	1326357	Lens	1	..
1	c	3013632	Lens	1	..
1		39359	O-Ring	1	..
1		1309775	Bulb	1	..
1		3015705	Bulb	..	1
1		1326356	Fuse	..	1
1	a	3015706	Lens	..	1
1	b	3015707	Lens	..	1
1	c	3015708	Lens	..	1
2		1302024	Guard	1	..
2		3015709	Guard	..	1
3		328389	Grommet	1	1
4		275494	Conduit	1	1
5		1306578	Wire	1	1
6		1306579	Wire	1	1
7		335850	Fused Wire	1	1
8		1152830	Connector	1	1
9		241878	Adhesive Clamp	3	3

a Amber
b Red
c Blue

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STROBE LIGHT (FIGURE 222)

HIGH INTENSITY



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STROBE LIGHT

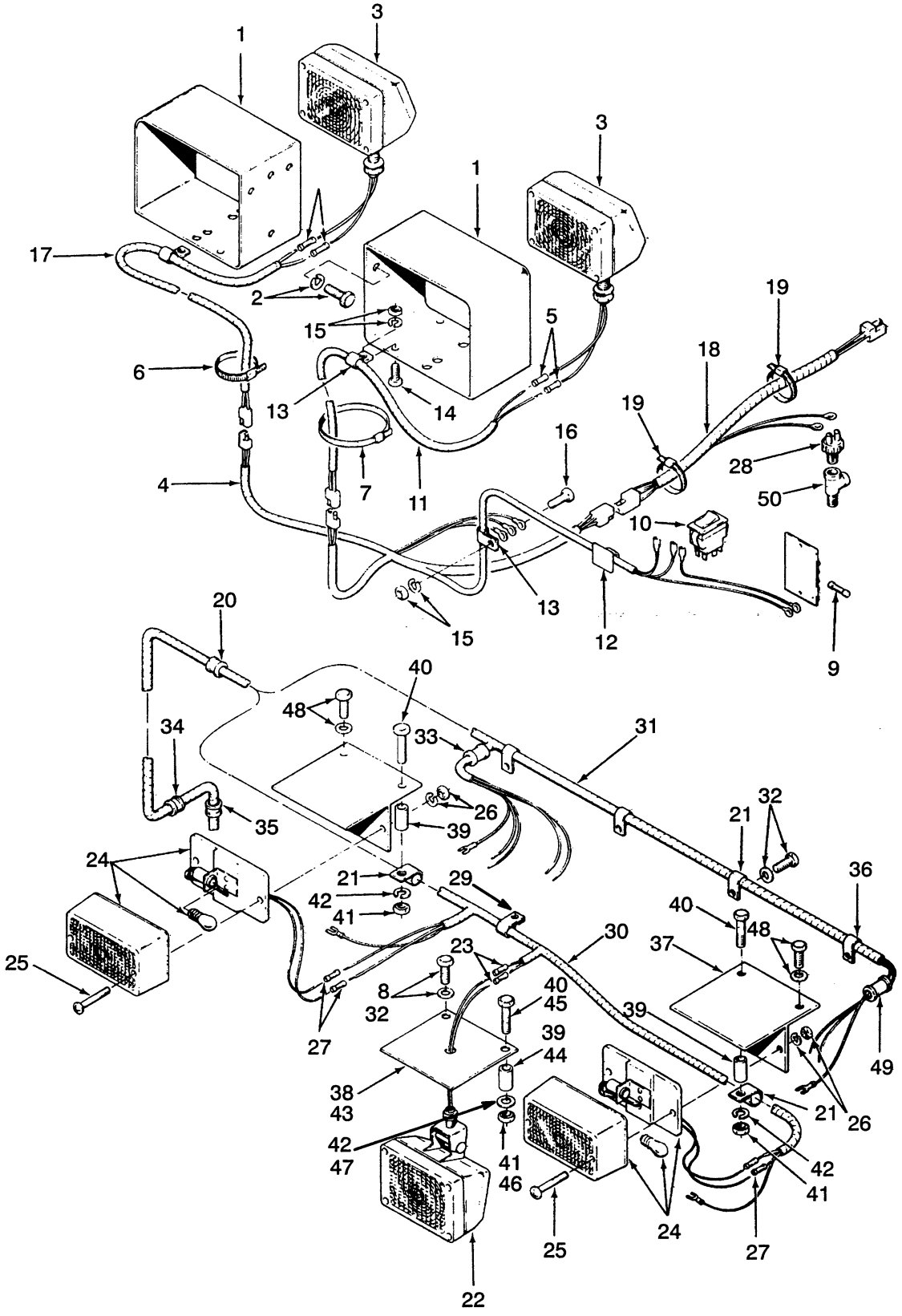
HIGH INTENSITY

REF		PART NO.	NAME OF PART	QTY
1	a	1316485	Strobe Light	1
1	b	1317485	Strobe Light	1
1	a	1326366	Lens	1
1	b	1326358	Lens	1
1	c	1331216	Lens	1
1		1322390	Bulb	1
1		1367544	Circuit Board	1
1		1322393	Fuse	1
2		1312465	Guard	1
3		328389	Grommet	1
4		275494	Conduit	1
5		1306578	Wire	1
6		1306579	Wire	1
7		335850	Fused Wire	1
8		1152830	Connector	1
9		241878	Clamp (Adhesive)	3
10		133484	Grommet	1
11		227098	Screw	3
12		15930	Washer	4
13		1316480	Shield	1
14		16719	Screw	1
15		16828	Capscrew	2
16		222667	Nut	2
17		15156	Washer	2
18		1316479	Plate	1

a Amber
b Red
c Blue

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LIGHTS (FIGURE 223)



LIGHTS

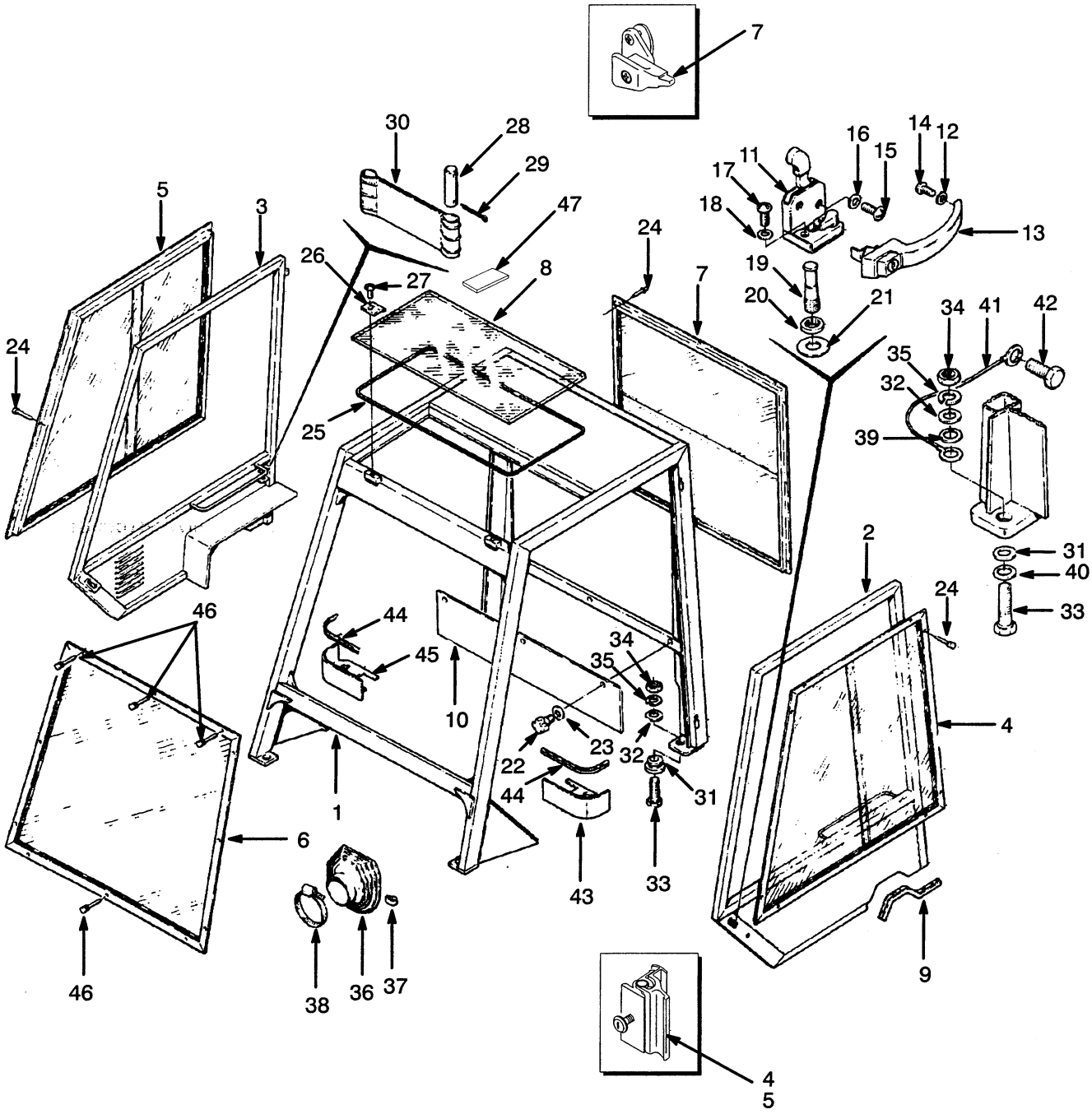
KEY:
A: Work Lights
B: Work/Rear Drive Lights
C: Work/Rear Drive/Stop-Tail Lights Without Cab
D: Work/Rear Drive/Stop-Tail Lights With Cab

Ref		Part No.	Name Of Part	QTY A	B	C	D
1		389136	Bracket	2	2	2	2
2		292514	Capscrew	4	4	4	4
2		292682	Lockwasher	4	4	4	4
3		353478	Light	2	2	2	2
3		389793	Lamp (12V Halogen)	1	1	1	1
3	a	357934	Halogen Light	2	2	2	2
4		1324175	Harness	1	1	1	1
5		1152571	Connector	4	4	4	4
6		137852	Clamp	3	3	3	3
7		273775	Strap/Clamp	6	6	6	6
8		358674	Sealant	AR	AR	AR	AR
9		1300134	Fuse	1	1	1	1
10		374047	Switch	1	1	1	1
11		1324176	Harness	1	1	1	..
12		241878	Adhesive Clamp	3	3	3	3
13		132131	Clamp	4	4	4	4
14		136681	Capscrew	2	2	2	2
15		239503	Nut	4	4	4	4
15		292681	Lockwasher	4	4	4	4
16		136749	Capscrew	2	2	2	2
17		1324177	Harness	1	1	1	1
18		1324178	Harness	..	1	1	1
19		137852	Clamp	..	6	6	6
20		69727	Grommet	..	1	1	1
21		132131	Clamp	..	3	3	3
22		353478	Light	..	1	1	1
22		389793	Lamp (12V Halogen)	..	1	1	1
22	a	357934	Halogen Light	..	1	1	1
23		1152571	Connector	..	2	2	2
24		353479	Lamp	..	..	2	2
24		389792	Lens	..	..	1	1
24		177521	Bulb	..	..	1	1
25		1300742	Screw	..	..	4	4
26		15052	Nut	..	..	4	4
26		15152	Lockwasher	..	..	4	4
27		1152571	Connector	..	..	4	4
28		387867	Switch	..	..	1	1
29		241878	Clamp	3	3	3	3
30		353486	Harness	..	1	1	..
30	b	1324179	Harness	..	1	1	..
31	c	1324180	Harness	..	1	..	1
32	c	316678	Screw	..	6	..	6
32	c	292681	Lockwasher	..	6	..	6
32	c	288394	Sealant	AR	AR	AR	AR
33	c	236890	Grommet	..	2	..	2
34	c	69727	Grommet	..	1	..	1
35	c	143413	Grommet	..	1	..	1
36	c	132131	Clamp	..	1	..	1
37		383141	Bracket	..	..	2	2
38		353379	Plate	..	..	1	1
39		116142	Spacer	..	..	6	..
40		136704	Capscrew	..	..	6	..
41		239503	Nut	..	..	6	..
42		292681	Lockwasher	..	..	6	..
43		353379	Plate	..	1	..	..
44	b	116142	Spacer	..	2	..	..
45	b	136704	Capscrew	..	2	..	..
46	b	239503	Nut	..	2	..	..
47	b	292681	Lockwasher	..	2	..	..
48		316678	Screw	..	..	..	4
48		292681	Lockwasher	..	..	..	4
49		236890	Grommet	..	..	..	2
50		16186	Fitting	..	..	1	1

a Optional
b Without Cab
c With Cab

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CAB (FIGURE 224)



CAB

REF		PART NO.	NAME OF PART	QTY
1		1321871	Frame	1
2		1300733	Door (L.H.)	1
2		288394	Sealant	AR
3		1300734	Door (R.H.)	1
3		288394	Sealant	AR
4	a	1319351	Window (L.H.)	1
4	b	1371791	Window (L.H.)	1
4	a	1324080	Glass (Sliding)	1
4	a	1324084	Latch	1
4	b	1377702	Latch	1
5	a	1319352	Window (R.H.)	1
5	b	1371792	Window (R.H.)	1
5	a	1324080	Glass (Sliding)	1
5		1324084	Latch	1
6	a	1319353	Window (Front)	1
6	b	1371793	Window (Front)	1
6		288394	Sealant	AR
7	a	1319354	Window (Rear)	1
7	b	1371794	Window (Rear)	1
7	a	1324111	Latch	2
7	b	1377274	Latch	2
7		288394	Sealant	AR
8		3047342	Window	1
8		288394	Sealant	AR
9		3047251	Band	AR
10		1361667	Plate	1
11		1309824	Handle (L.H. Door)	1
11		1312450	Handle (R.H. Door)	1
11		823627	Key	1
12		292680	Lockwasher	2
13		365341	Door Handle (Outside)	2
13		1360777	Key	1
14		302050	Screw	2
15		302248	Screw	4
16		15165	Lockwasher	4
17		296464	Screw	4
18		296396	Washer	4
19		365344	Bolt	2
20		365343	Plate	2
21		15178	Washer	2
22		370294	Knob	3
23		320156	Washer	3
24		1321870	Rivet	24
25		318352	Strip	AR
26		3047238	Plate	3
27		302031	Screw	3
28		353474	Pin	4
29		18828	Cotter Pin	4
30		3047223	Retainer	2
31		209067	Mount	4
32		300932	Washer	4
33		292533	Capscrew	4
34		216877	Nut	4
35		292683	Lockwasher	4
36		3047177	Boot	2
37		806608	Clip	20
38		78286	Clamp	2
39		320161	Washer	1
40		296362	Lockwasher	1
41		353145	Wire	1
42		316678	Screw	1
43		1300725	Bracket	1
44		1302136	Seal	AR
45		1300728	Bracket	1
46		1321870	Rivet	40
47		1342660	Rubber Strip	3

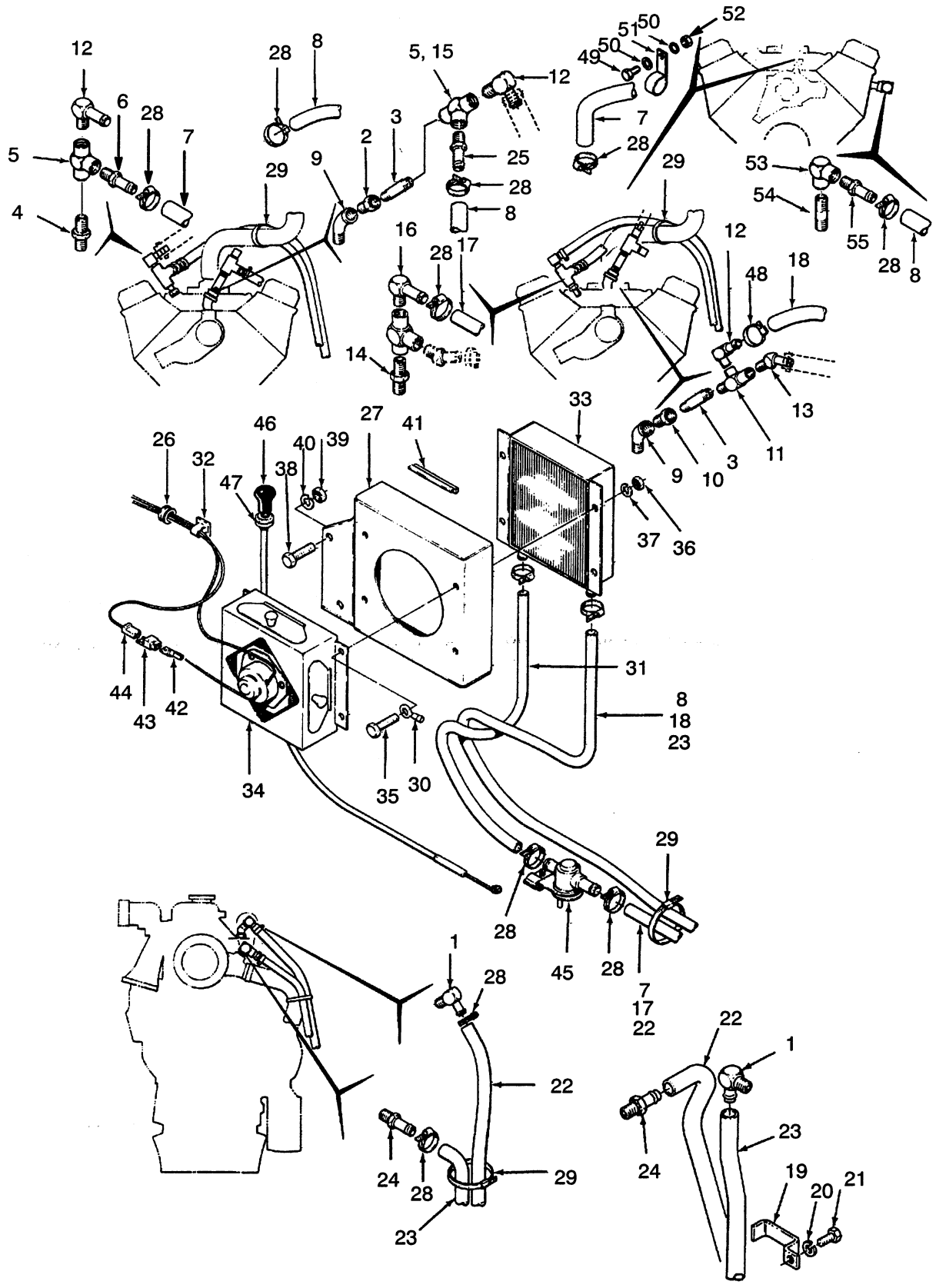
a Last Used S/N G5D-4555

b First Used S/N G5D-4556
(Purchase Glass Locally)

Note: Optional All Black Cab Is Available

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HEATER (FIGURE 225)



HEATER

KEY:
A: Gasoline
B: LPG
C: Diesel

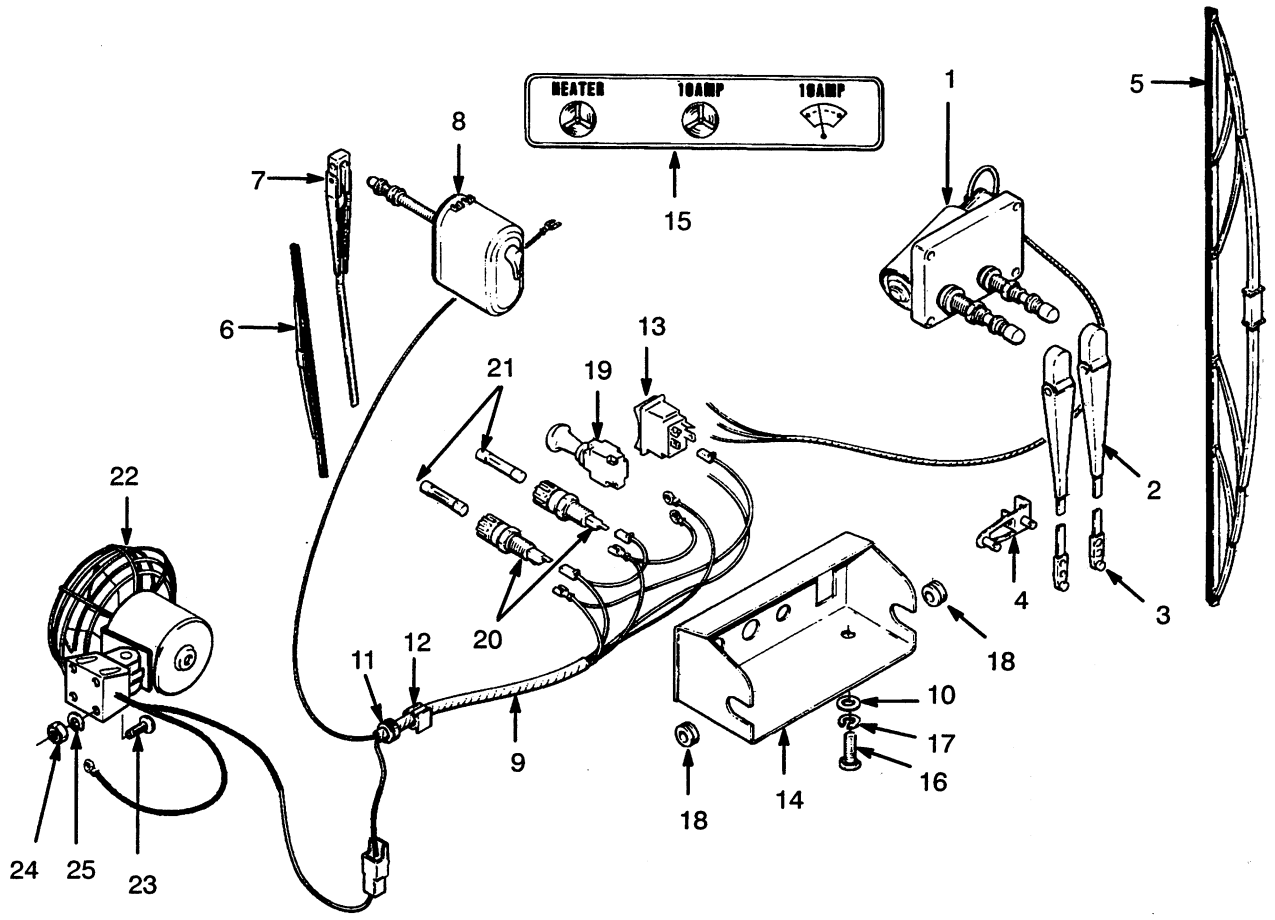
REF		PART NO.	NAME OF PART	QTY A	B	C
1		17174	Fitting	..	..	1
2		12845	Fitting	1	..	..
3	a	19606	Fitting	1	1	..
4	a	12832	Fitting	1	..	..
5	a	12840	Fitting	2	..	..
6	a	127852	Fitting	1	..	..
7	a	258487	Hose	1	..	..
7	b	258488	Hose	1	..	..
8	a	1356936	Hose	1	..	..
8	b	1383309	Hose	1	..	..
9		19521	Fitting	..	1	..
10		12845	Fitting	..	1	..
11	a	12840	Fitting	..	1	..
12	a	17174	Fitting	2	1	..
13	a	127852	Fitting	..	2	..
14		12832	Fitting	..	1	..
15		201757	Fitting (Early Models)	..	1	..
16	a	16155	Fitting	..	1	..
17	a	258487	Hose	..	1	..
17	b	258488	Hose	..	1	..
18	a	1356936	Hose	..	1	..
18	b	1383309	Hose	..	1	..
19		251994	Clamp	..	..	1
20		292681	Lockwasher	..	..	1
21		136681	Capscrew	..	..	1
22		925952	Hose	..	..	1
23		1300738	Hose	..	..	1
24		16156	Fitting	..	..	1
25	a	17177	Fitting	1	..	..
26		216735	Grommet	1	1	1
27		1345018	Bracket	1	1	1
28		130845	Clamp	6	5	6
29		129563	Strap Clamp	9	9	9
30		129894	Terminal	1	1	1
31		1300732	Hose	1	1	1
32		279739	Clamp	6	6	6
32		1326654	Clamp (Optional)	6	6	6
33		353440	Radiator	1	1	1
34		353423	Blower	1	1	1
35		292501	Capscrew	4	4	4
36		136687	Nut	4	4	4
37		292680	Lockwasher	4	4	4
38		287854	Capscrew	2	2	2
39		136692	Nut	2	2	2
40		292682	Lockwasher	2	2	2
41		1328887	Seal	AR	AR	AR
42		134810	Connector	1	1	1
43		181045	Connector	1	1	1
44		181046	Connector	1	1	1
45		1300741	Valve	1	1	1
46		1302129	Cable	1	1	1
47		15134	Washer	2	2	2
48		130845	Clamp	..	1	..
49	b	293615	Capscrew	1	..	..
50	b	292681	Washer	2	..	..
51	b	101625	Clamp	1	..	..
52	b	239503	Nut	1	..	..
53	b	12817	Fitting	1	..	..
54	b	19581	Fitting	1	..	..
55	b	138710	Fitting	1	..	..

a Last Used On S/N G5D-7759 (Including S/N 7830-7832, 7834-7837, 7840 And 7841) Except S/N G5D-7710

b First Used On S/N G5D-7760 (Except For S/N 7830-7832, 7834-7837, 7840 And 7841) And Includes S/N G5D-7710

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WIPERS AND DEFROSTER FAN (FIGURE 226)



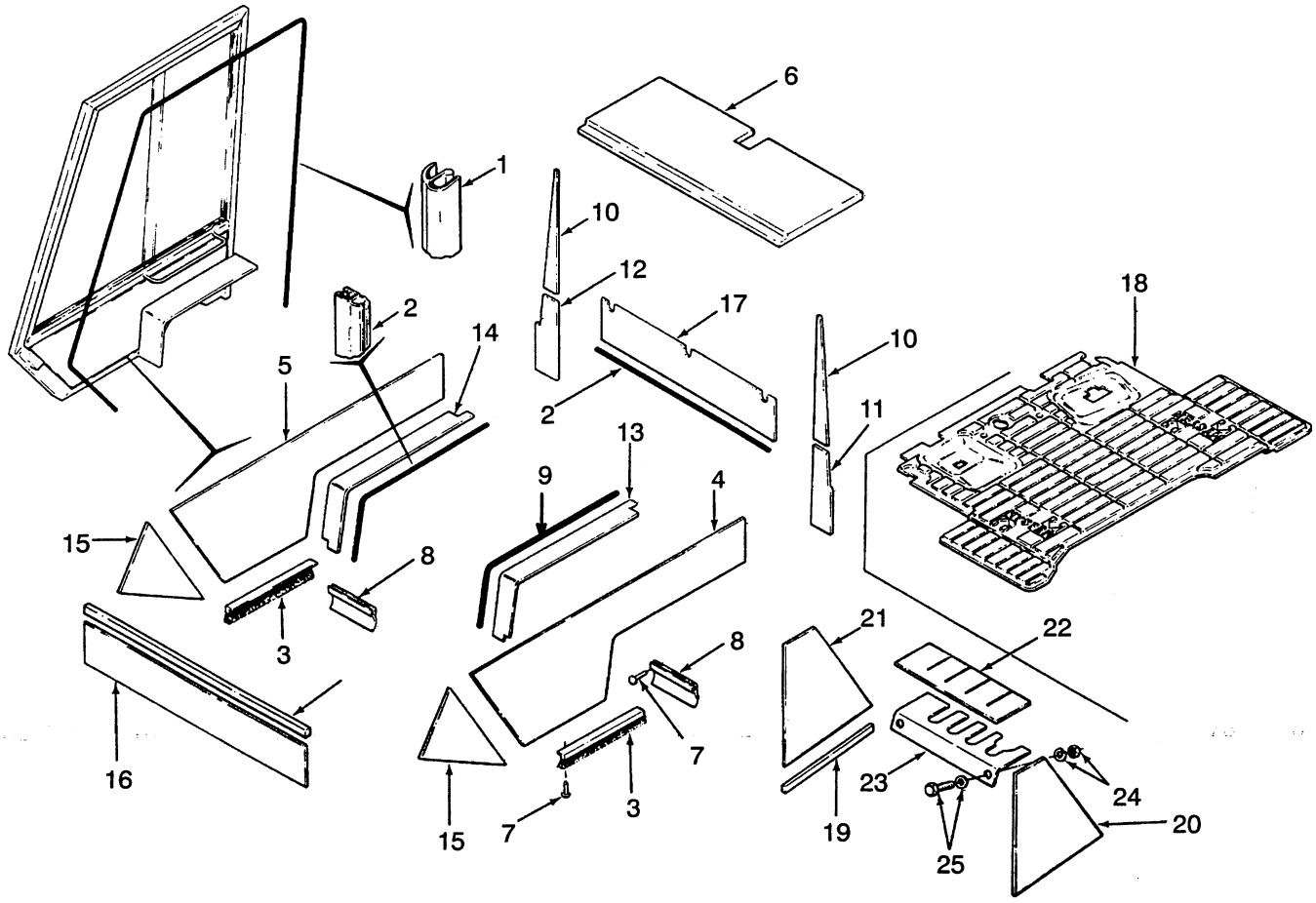
REF		PART NO.	NAME OF PART	QTY
1		334228	Wiper Motor	1
2	a	334233	Wiper Arm	1
2	b	816045	Wiper Arm	1
3	a	334234	Arm Guide	1
4		334229	Bracket	1
5	a	334230	Wiper Blade	1
5	b	816046	Wiper Blade	1
6	a	365305	Wiper Blade	1
6	b	1466437	Wiper Blade	1
7	a	365304	Wiper Arm	1
7	b	1466435	Wiper Arm	1
8	a	1317481	Wiper Motor	1
8	b	2038038	Wiper Motor	1
9	a	1324189	Harness	1
9	b	2038035	Harness	1
10		320156	Washer	2

REF	PART NO.	NAME OF PART	QTY
11	26283	Grommet	1
12	1301727	Adhesive Clamp	1
13	334635	Switch	1
14	377606	Panel	1
15	377608	Label	1
16	148962	Capscrew	2
17	292680	Lockwasher	2
18	1151997	Grommet	1
19	365348	Switch	1
20	377607	Holder	2
21	53124	Fuse (10 Amp)	2
22	1311213	Fan	1
23	16750	Screw	4
24	15002	Nut	4
25	15152	Lockwasher	4

a Last Used On S/N G5D-6989
b First Used On S/N G5D-6990

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SOUND LINER (FIGURE 227)

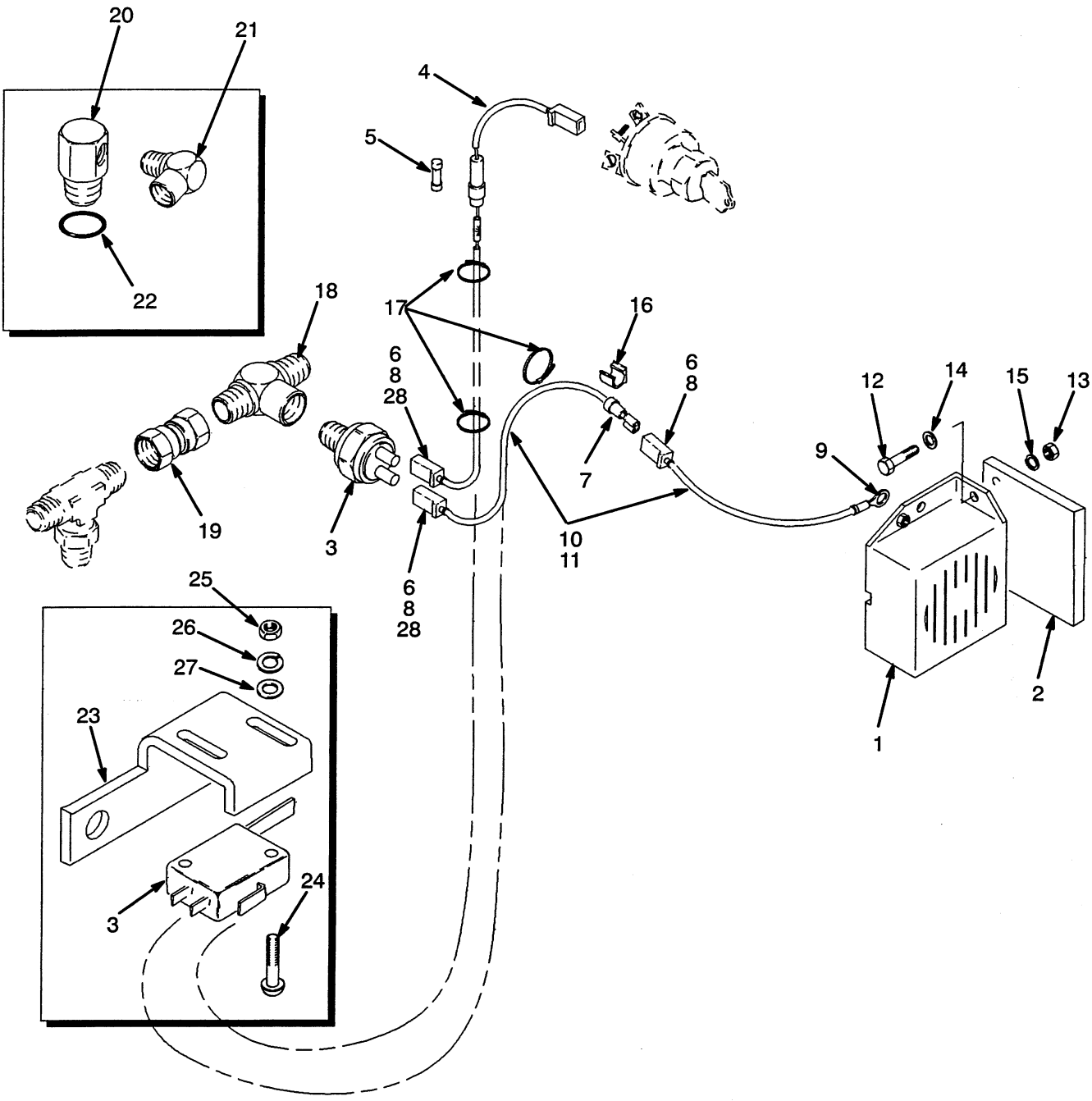


REF	PART NO.	NAME OF PART	QTY
1	365327	Seal	AR
2	1302136	Seal	AR
3	365328	Seal Strip	AR
4	1300232	Lining, LH	1
5	1300233	Lining, RH	1
6	1300241	Lining	1
7	222024	Rivet	20
8	1300730	Seal	2
9	288762	Foam Tape	AR
10	353450	Foam	2
11	1300237	Lining, RH	1
12	1300238	Lining, LH	1
13	1300235	Lining, LH	1
14	1300234	Lining, RH	1

REF	PART NO.	NAME OF PART	QTY
15	1300240	Lining	2
16	1300735	Lining	2
17	1300236	Lining	1
18	1323399	Floor Mat (Oil Clutch)	1
18	1358623	Floor Mat (Powershift)	1
19	288762	Foam Tape	AR
20	1300242	Lining, LH	1
21	1300243	Lining, RH	1
22	1300244	Lining	1
23	1300245	Bracket	1
24	239503	Nut	2
24	292681	Lockwasher	2
25	136749	Capscrew	2
25	320157	Washer	2

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BACK-UP ALARM (FIGURE 228)



BACK-UP ALARM

KEY:
A: Powershift Monotrol Pedal
B: Powershift Forward/Reverse Lever
C: Oil Clutch

REF	PART NO.	NAME OF PART	QTY A	B	C
1	1350733	Alarm (87 dBA)	1	1	1
1	1350734	Alarm (97 dBA)	1	1	1
1	1350735	Alarm (102 dBA)	1	1	1
1	1350736	Alarm (107 dBA)	1	1	1
1	1339947	Alarm (82-102 dBA)	1	1	1
2	1339939	Bracket	1	1	1
3	1301299	Switch	1	1	..
4	1343636	Switch	..	..	1
4	1339941	Wire Assembly	1	1	1
5	826004	Crimp Connector	1	1	1
6	134812	Terminal	3	3	3
7	129892	Terminal	1	1	1
8	1301720	Connector	3	3	3
9	129887	Terminal	1	1	1
10	1355816	Conduit (174 Inches)	1	1	1
11	1355815	Wire (192 Inches)	1	1	1
12	18461	Capscrew	2	2	2
13	15004	Nut	2	2	2
14	15127	Washer	2	2	2
15	15154	Lockwasher	2	2	2
16	279739	Adhesive Clamp	10	10	10
17	137852	Strap Clamp	10	10	10
18	14645	Fitting	1	1	..
19	1352525	Fitting	1	..	..
20	1352546	Fitting	..	1	..
21	16151	Fitting	..	1	..
22	16482	O-Ring	..	1	..
23	1355813	Bracket	..	..	1
24	220428	Screw	..	..	2
25	16865	Nut	..	..	2
26	53162	Lockwasher	..	..	2
27	197064	Washer	..	..	2
28	214517	Terminal	..	..	2

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NOTE

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AR	7	AR	15125	111	29	15200	151	12		131	31		29	16
126	151	11	15127	129	33		152	10	16167	125	19	16816	135	15
142	153	17		131	24		153	5	16177	159	42		29	34
12815	25	47		201	25		163	31		161	57	16818	25	27
	81	30		25	14	15212	11	6	16190	125	20	16828	135	19
12817	131	32		7	43		151	3		133	12		178	62
12818	127	3		81	6		153	10		161	28		181	26
12821	178	76	15134	185	24	15302	85	17	16372	83	30		201	30
	181	22		187	10	15303	61	27	16374	33	2		25	42
12831	131	68		191	13	15304	101	3		7	17	16836	205	27
12832	127	39		193	13		83	6	16378	35	33		71	43
12845	131	30		195	10		88	5		43	25		7	40
12928	25	34		25	43	15314	103	14	16379	33	45	16841	131	4
	25	51	15152	177	3		159	36		41	19	17173	177	52
	26	26		209	24		83	37		51	52		199	
	29	26	15154	129	32		88	5		59	55	17177	135	29
14273	131	17		131	25	15337	127	2	16394	71	45	17314	125	18
14303	125	2		44	6		135	31	16526	119	1	17343	133	10
14349	167	29		71	33	15483	83	33	16597	181	30		161	40
	97	23	15155	191	10		97	10	16598	127	27		167	27
14358	127	29		193	10	15916	191	18		129	25	17387	13	5
	127	43		201	24		207	10		151	6	17650	169	18
	129	27		205	28	15923	151	17		178	69	17671	169	18
	129	55		71	44	15962	115	21		178	92	17736	133	11
	131	36		7	21		117	21		187	9		161	27
	131	6	15156	135	16		159	37		195	9	17817	127	32
14372	125	21		177	25		31	39		71	49		129	52
14385	125	16		178	63		85	16	16634	26	15	18419	207	6
	133	17		178	70		91	34		29	15	18460	127	36
	161	35		178	93		99	20		35	46		129	34
14761	33	41		181	27	15963	137	3	16694	167	28		131	26
	41	40		185	25	16073	25	14		169	23	18465	167	17
	51	38		185	6		81	49	16708	125	7		169	28
	59	40		187	11	16100	159	41		133	3	18496	129	20
15002	151	8		189	4		161	14		161	63		191	9
	177	4		191	12		161	3	16709	44	6		193	9
15024	151	9		193	12		161	56	16719	145	15	18497	201	22
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	187	19
1459400	23	16
1459401	23	16
1459456	87	11
1459457	87	14
1459646	63	
	67	
	71	
	75	
1459717	146	
1459730	97	13
1459741	181	38
	201	36
1459742	201	33
1459773	202	79
1459774	201	34
1459775	202	104
1459978	135	14
1460191	91	1
1460322	75	37
	77	37
1460330	63	21
	65	21
1460331	63	23
	65	23
1460332	77	43
1460384	69	9
1460385	63	1
	65	1
1460386	63	8
	65	8
1460454	115	1
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1460567	103	19
1460572	165	1
	165	31
1460737	63	11
	65	11
1460738	63	11
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	77	26
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1461409	151	7
1461713	105	9
1461714	105	9
1461715	105	11
1461716	105	11
1461743	195	4
1463664	165	1
1465171	115	19
	117	19
1465392	91	32
1465803	117	26
1465810	117	30
1465811	117	31
1465812	117	28
1465895	115	1
	117	1
1465896	115	
	117	
1466858	99	13
1466859	111	12
	95	21
1467584	65	
	69	
	73	
	77	
1468313	159	15
1471555	69	2
1471556	77	3
1471557	69	1
1471558	77	25
1471559	73	18
2004005	125	25
	135	32
2021238	21	5
2033817	131	69
	167	13
	169	11
	171	13
2034459	15	12
2035710	185	1
2036694	195	1
2036699	195	3
2038072	77	40
3002323	81	46
3002338	25	7
	81	46
3002793	25	51
8504095	207	
8504117	207	
8504287	185	9
8504324	15	20

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