

Gillison's Variety Fabrication, Inc.



GVF Rough Terrain Forklift Parts Manual

Manual Part Number: GL 11485

Model Number:
GVF 5000

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online: www.gillisons.com

Table of Contents

INTRODUCTION 1

ENGINE ACCESSORIES 2

AIR INTAKE 2

Intake Tube 4

Tier II Air Cleaner 2

Tier III Air Cleaner 3

COOLING SYSTEM 5

Lower Radiator Hose Tee 7

Radiator Fan Shroud 6

Radiator Hoses 8

ELECTRICAL 9

Additional Electrical Components 18

Alternator 13

Control Lever Connections 13

FNR Switch Wire Harness 16

Harness 15

Main Wiring 15

Plug Kits 11

Relay, Start 14

Shift Knob Assembly 12

Terminals & Housings 9

Work Lights Harness 17

EXHAUST 19

Exhaust 20

Exhaust 21

Exhaust Hanger 22

FILTERS 23

THROTTLE 24

Throttle Components 24

FRAME AND SHEET METAL 25

BATTERY BOX 25

CHASSIS FRAME 26

Main Chassis Frame Chart 27

Main Chassis Frame Diagram 26

DECALS 28

Forklift Decal Set 29

FIRE WALL 30

Firewall Diagram and Chart 30

FALLING OBJECT PROTECTION SYSTEM 31

FOPS Diagram and Chart 31

FUEL TANK 32

Fuel Tank Diagram and Chart 32

HOOD 33

Hood Diagram and Chart 33

Hood Hinge Diagram and Chart 34

OPERATOR'S PLATFORM 35

Operator's Platform Components 35

PAINT 37

WEIGHT BOX 38

HYDRAULIC SYSTEM 39

CONTROL VALVE, 39

Handle With Ball Knob 43

Inlet Section 40

Lift Valve Section 40

Outlet Section 41

Valve Pivot Assembly 42

Work Section 41

CYLINDERS 44

Hydraulic Oil Tank 1 47

Hydraulic Oil Tank 2 48

Master Cylinder 45

Remote Actuator 46

Table of Contents

Tilt Cylinder 44

PUMP 49

Hydraulic Pump 50

Hydraulic Pump Control Cover 49

MATERIAL HANDLING SYSTEM 51

BIN CLAMP 51

Bin Clamp Cylinder 52

FORKS 53

Drilling Holes in Fork Blades 59

Fork Inspection Guidelines 55

Fork Inspection Log 53

Fork Maintenance and Inspection 56

Forks 58

MAST 60

6 Roller Carriages 71

2600 PSI Main Lift Cylinders Chart 62

2600 PSI Main Lift Cylinders Diagram 61

Common Parts 65

Common Parts 67

Common Parts, 48" Integral Carriage 64

Hoist Chains 68

Hydraulic Group 69

Inner Weldment Diagram 66

Internal Hose Reeving Chart 73

Internal Hose Reeving Diagram 72

Introduction to Mast Section 60

Load Backrest 70

Lowering Control Valve 70

Outer Weldment Diagram 63

SIDESHIFTER - F SERIES 74

Base Unit 75

Cylinder Assembly 76

Introduction to Sideshifter Section 74

BACK REST 76

POWERTRAIN 77

Brakes 462/20880 Diagram 79

Drivehead 461/22790 Diagram 82

Front Axle Diagram 77

Hub Components 461/22790 Diagram 84

Parking Brake 462/20880 Diagram 80

PD70 Drivehead Diagram 78

Rear Axle SD55 Diagram 81

Steer Knuckle 461/22790 Diagram 83

BRAKES 85

Brake Cable 86

Parking Brake 85

DRIVESHAFT 87

Front Drive Shaft 87

Rear Driveshaft 88

U-Joint 1410 Series 88

U-Joint 1480 Series 87

U-Joint 1480 Series 88

TIRES 89

TRANSMISSION 90

SS700 4WD, 460/60050 Diagram 90

SS700 4WD, 460/60050 Diagram 93

SS700 4WD, Clutch Unit Diagram 94

SS700 4WD, Gear Change Diagram 91

SS700 4WD, Internal Components Diagram 95

SS700 4WD, Pump & Main Hyd Pump Drive Diagram 96

SS700 4WD, Reverser Unit Diagram 92

Table of Contents

WHEEL ASSEMBLY 97

STEERING 98

STEERING COLUMN 98

STEERING CYLINDER 99

STEERING CYLINDER DIAGRAM 100

STEERING MOTOR 101

STEERING MOTOR PARTS BREAKDOWN 102

INTRODUCTION

The information in this publication describes the parts of the GVF Rough Terrain Forklift, Model GVF 5000. Every effort has been made to provide correct and concise information, as available at the date of publication. Your GVF/Gillison's dealer is available should items in this book or details of your machine not be understood.

Your GVF/Gillison's dealer can assist in areas concerning machine service. If the original book should become lost or damaged, consult your GVF/Gillison's dealer in regards to acquiring a replacement.

Customers are strongly advised to use an authorized GVF/Gillison's dealer in connection with any service problems and adjustments that may occur.



Use only parts from your GVF/Gillison's dealer for repairs and/or replacement.



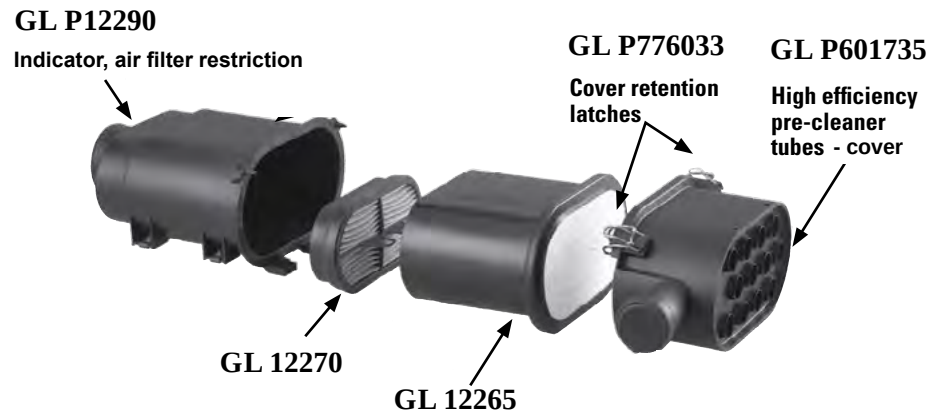
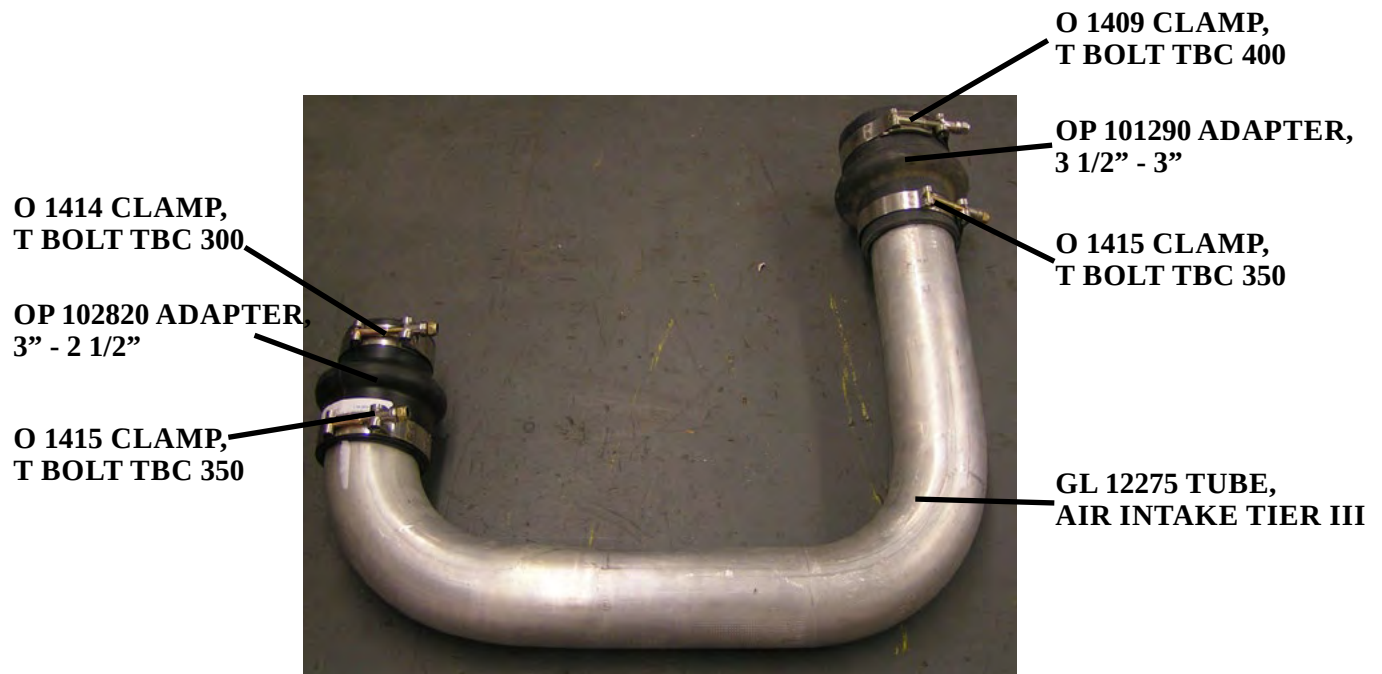
ENGINE ACCESSORIES**AIR INTAKE****TIER II AIR CLEANER**

GL 11185 Air cleaner assembly

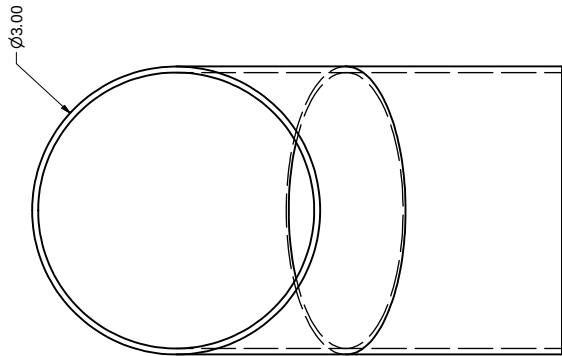
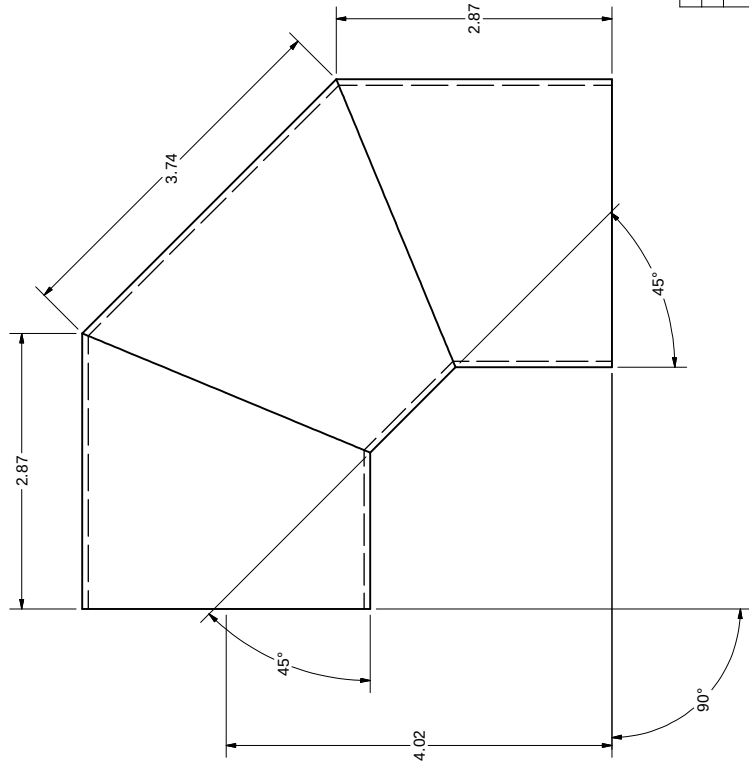
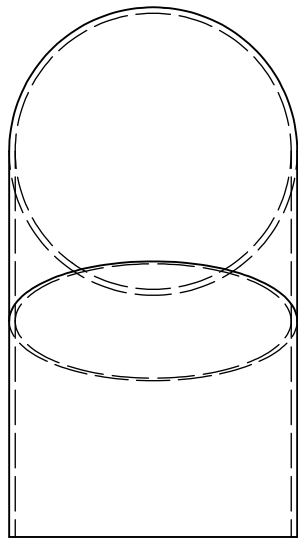
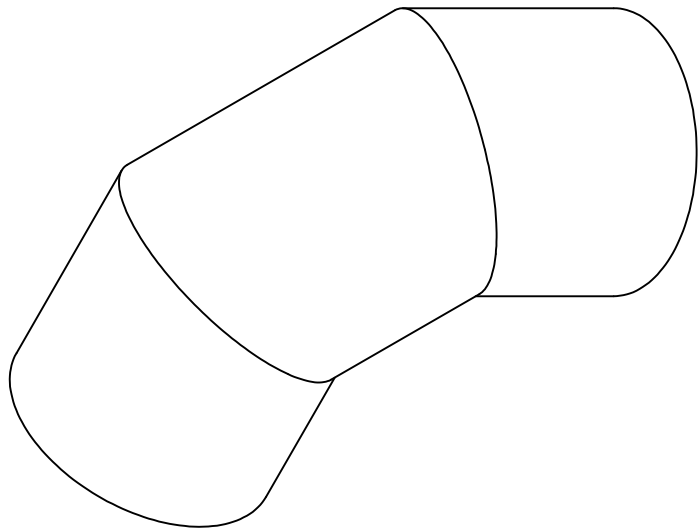
Not Illustrated

GL 11190, Mounting band



TIER III AIR CLEANER**GL 12260 Air cleaner assembly****AIR INTAKE**

INTAKE TUBE
GL 95301

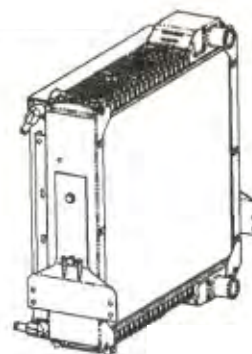
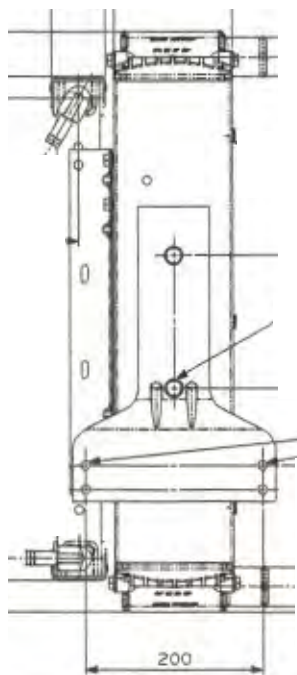


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95301	3" STAINLESS TUBING AIR INTAKE TO MANIFOLD

COOLING SYSTEM

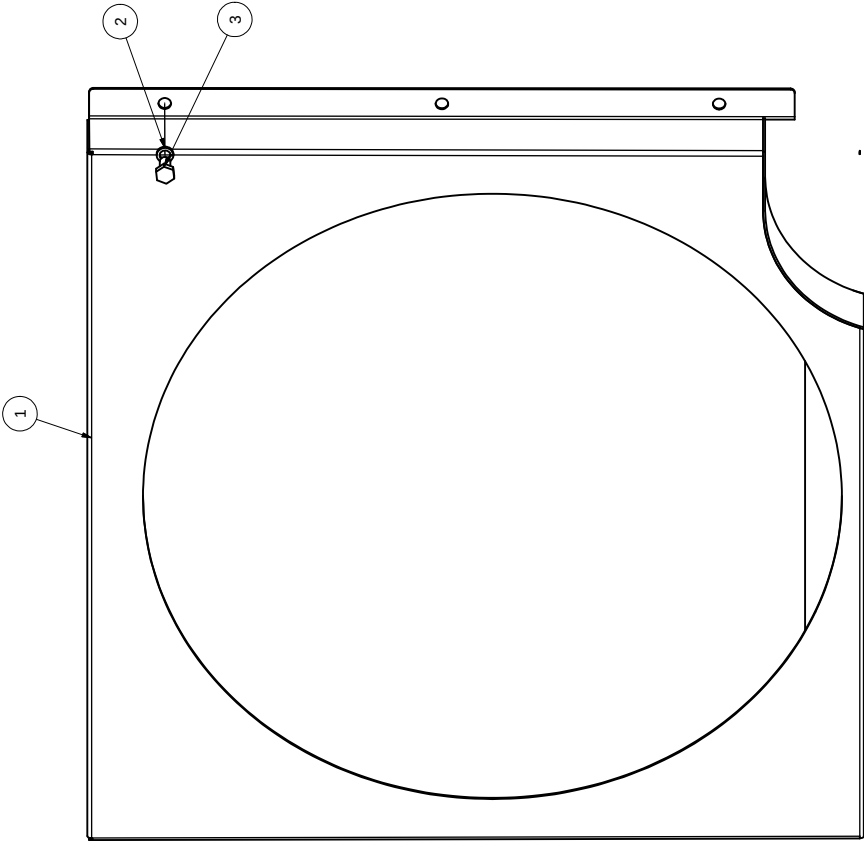
Radiator

Part	Part Number
Radiator	GL 30/926671
Oil Cooler	GL 30/925615
Module	GL 128/14326



RADIATOR FAN SHROUD

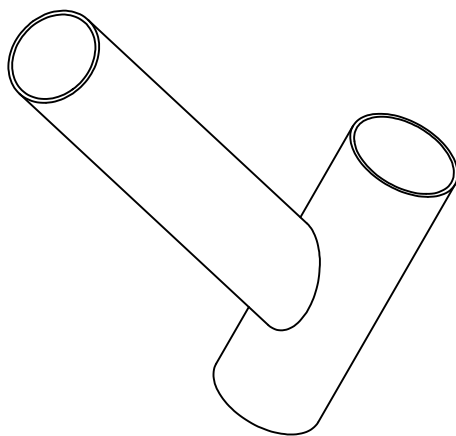
Reference: Used on forklifts with serial numbers GL 2000 through current.



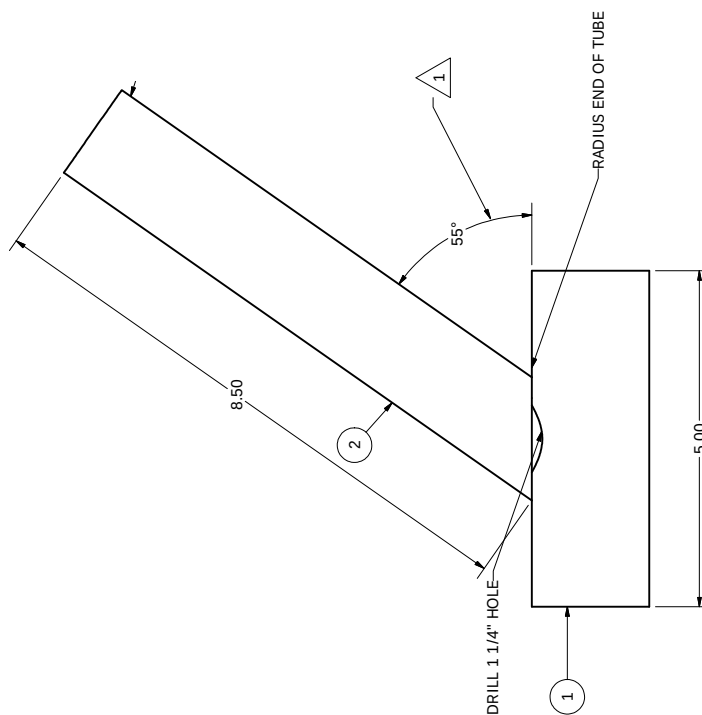
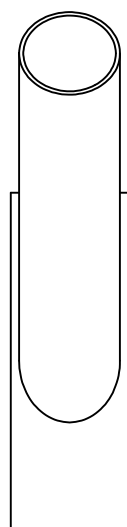
REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED
1	1	GL2000-CURRENT	9/11/2008	matt

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95101	FAN SHROUD
2	6	N3260	8MM LOCKWASHER
3	6	N3268	HHCS 8MM -1.25 X 16MM
			GR 8.8

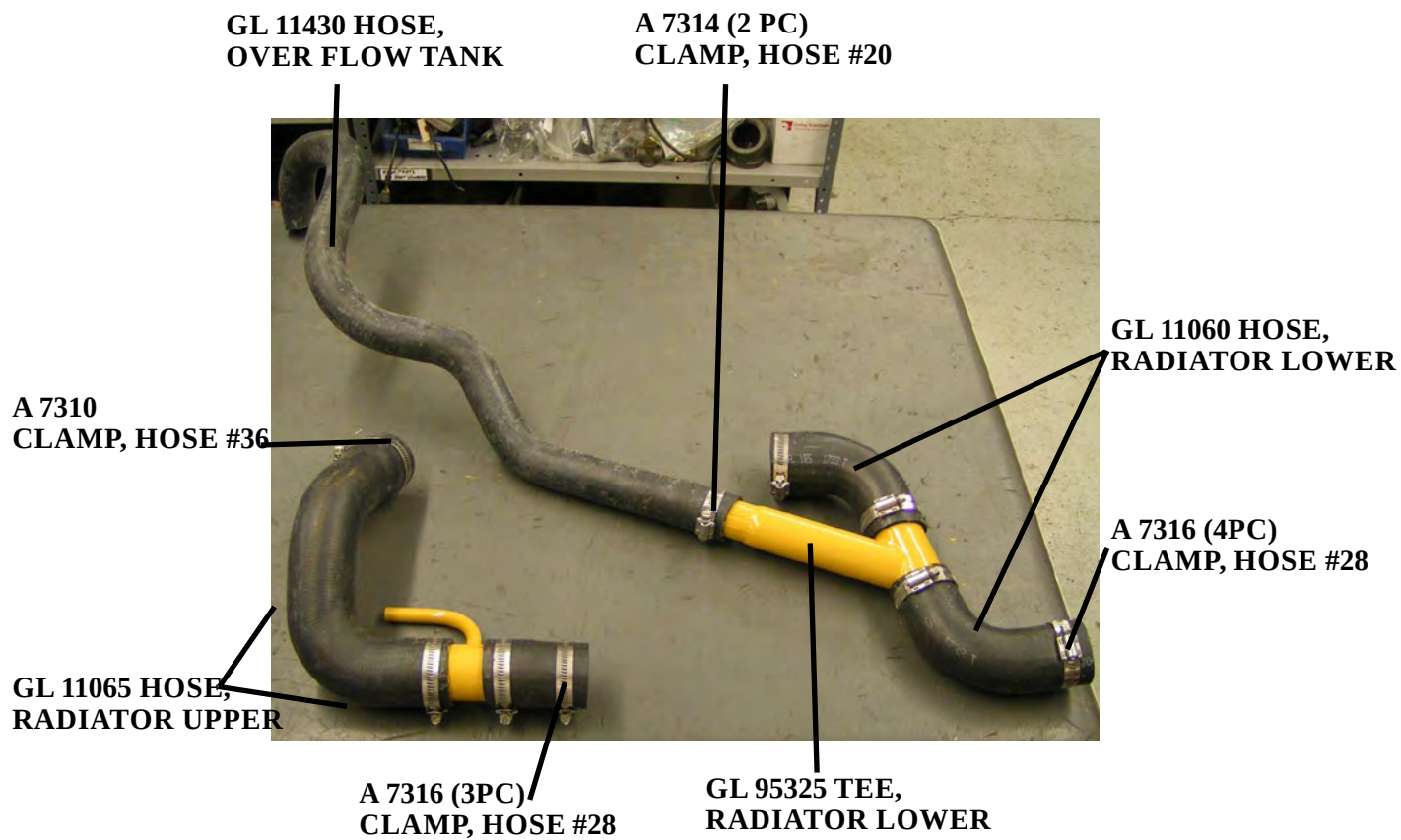
LOWER RADIATOR HOSE TEE GL 95325

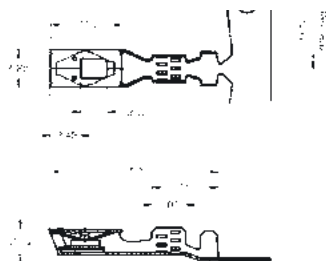
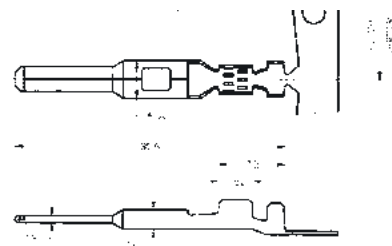
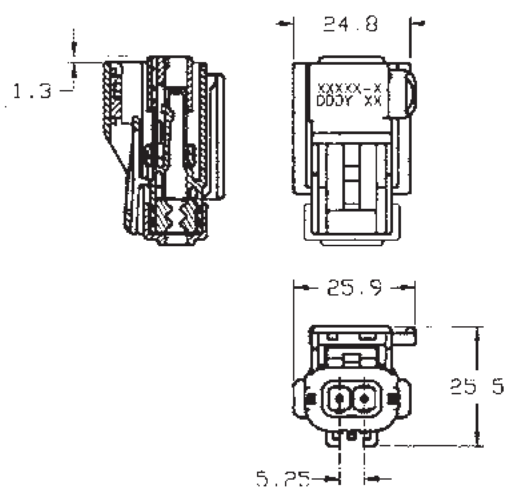
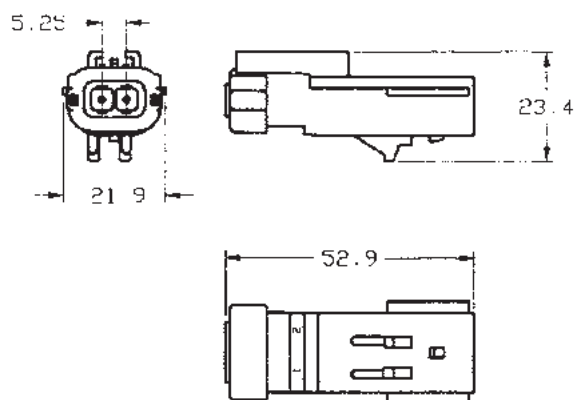
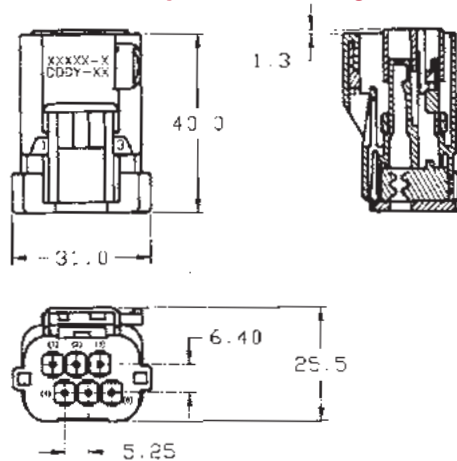
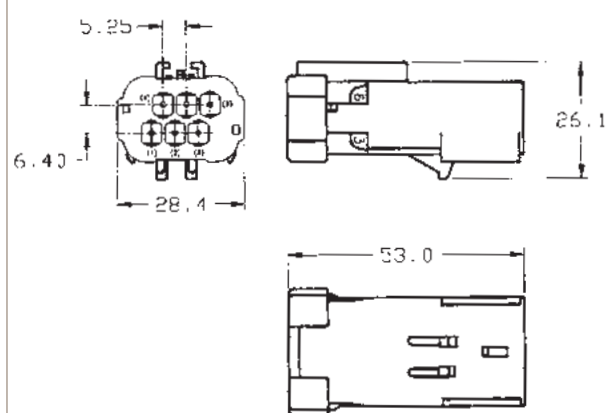


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95325	1 3/4" EXHAUST TUBE
2	1	C10E926	1 1/2" EXHAUST TUBE



RADIATOR HOSES

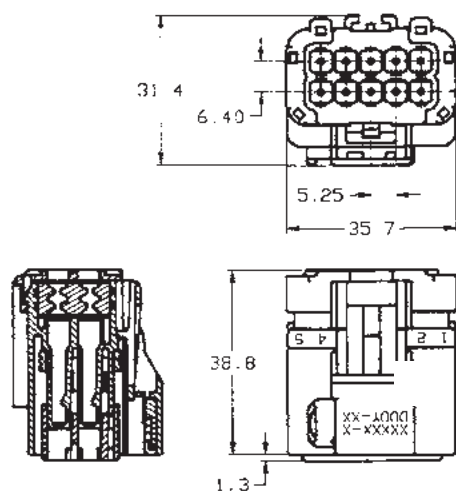


ELECTRICAL**TERMINALS & HOUSINGS****GL 11550****Female terminals****GL 11555****Male terminals****GL 11510****2 way female housing****GL 11515****2 way male housing****GL 11520****6 way female housing****GL 11525****6 way male housing**

Terminals and Housings Continued

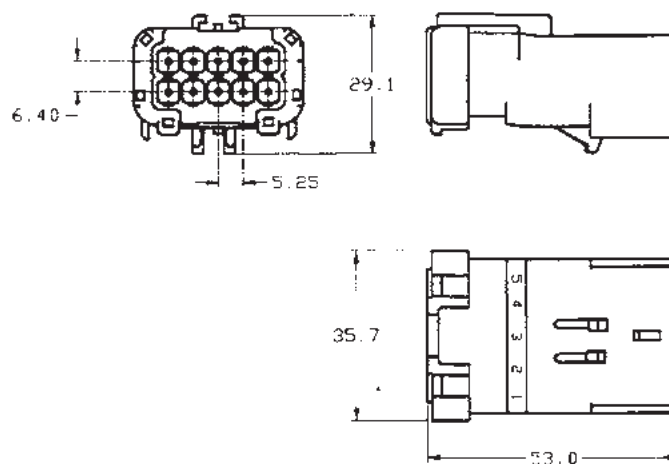
GL 11530

10 way female housing



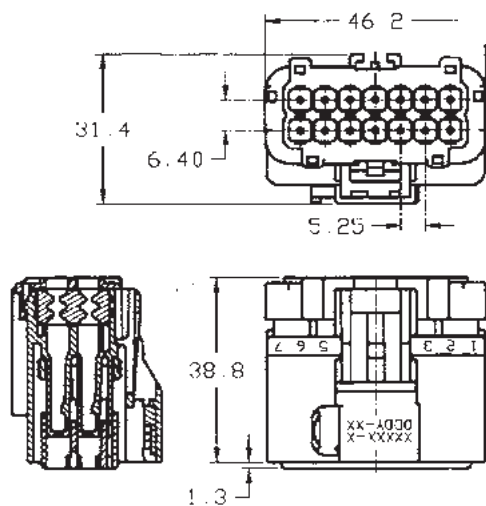
GL 11535

10 way male housing



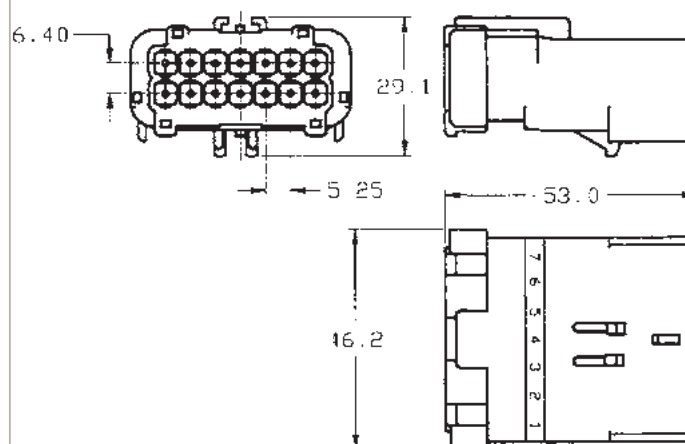
GL 11540

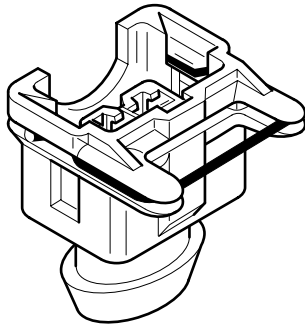
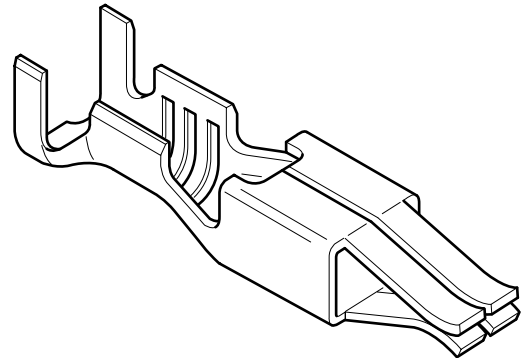
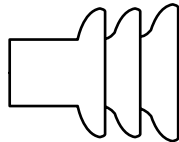
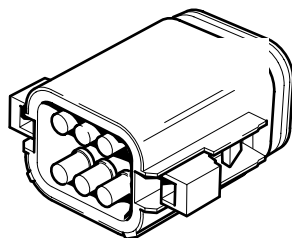
14 way female housing



GL 11545

14 way male housing



PLUG KITS**AMP 2 PIN GL 460/34600****2 Way A.M.P. Female Junior Timer Plug Kit
GL 460/34600****Fig. 5.1 Junior Timer Housing Amp Ref 190667-3****Fig. 5.2 Socket Terminal Amp Ref. 929939-1****Fig. 5.3 Wire Seal AMP Ref 828904-1****DEUTSCH 6 PIN PLUG KIT
GL 460/34700****Deutsch Plug Kits****Connector Mounting Details****Fig. 5.9 6-Pin Plug Kit 460/34700
Female Connector**

SHIFT KNOB ASSEMBLY

GL 993/61200, Knob, items 1&2 top & bottom

GL 701/42600, Switch Lead, item 3

GL 830/00543, Collar, item 5

ITEMS 4 AND 6 NOT USED

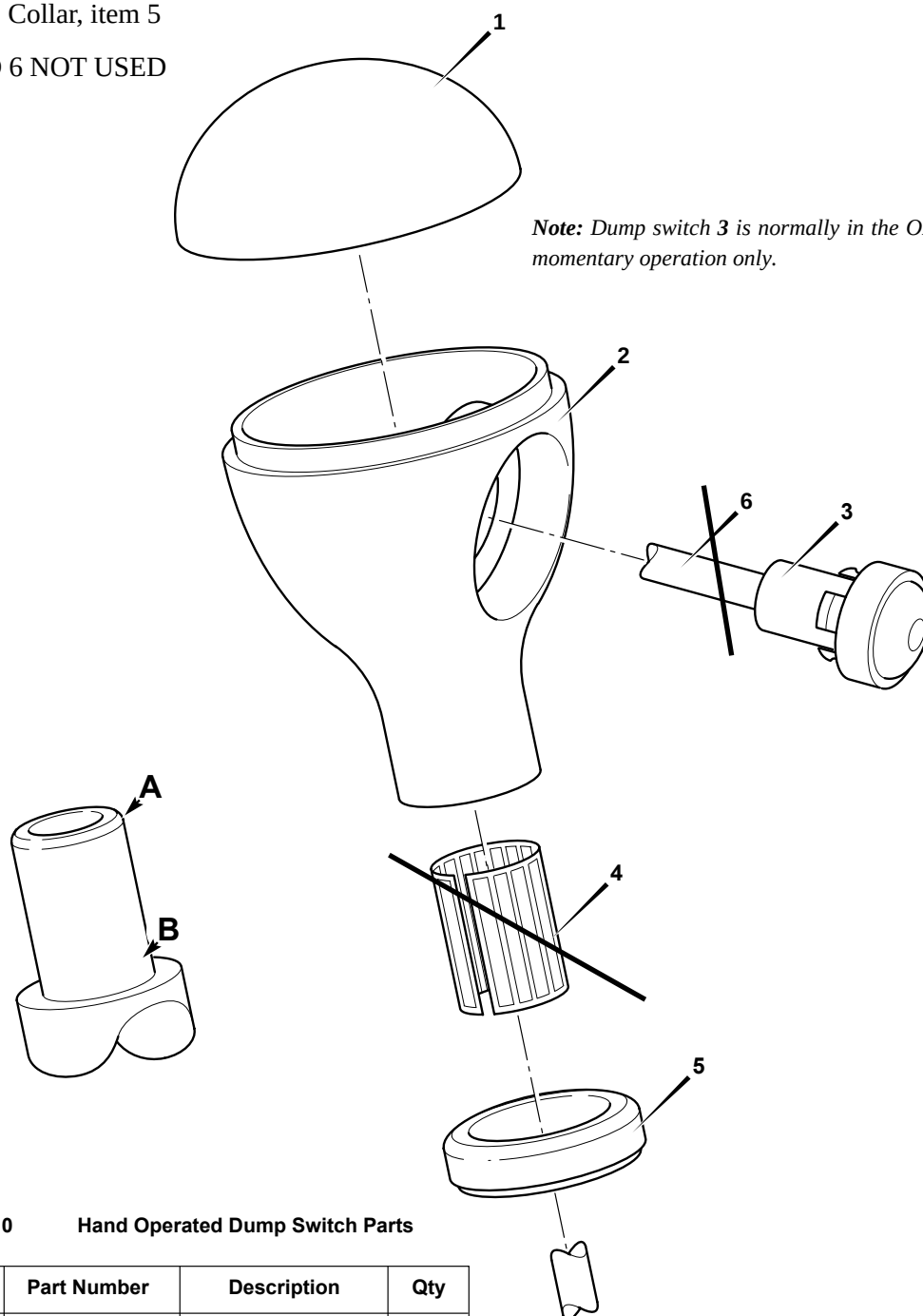


Table 5.10 Hand Operated Dump Switch Parts

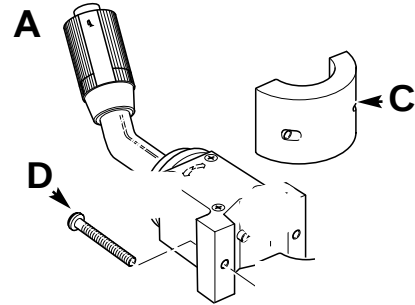
Item	Part Number	Description	Qty
1	123/00317	Top	1
2	123/00316	Base	1
3	701/42600	Switch/lead 650 mm long	1
4	122/67459	Tolerance Ring	1
5	830/00543	Collar	1

CONTROL LEVER CONNECTIONS

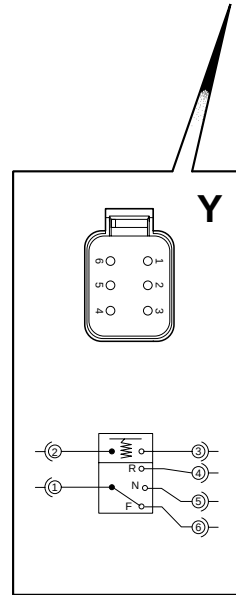
ITEM A - GL 475/42200 FNR LEVER

ITEM C - GL 475/42101 CLAMP, mounting

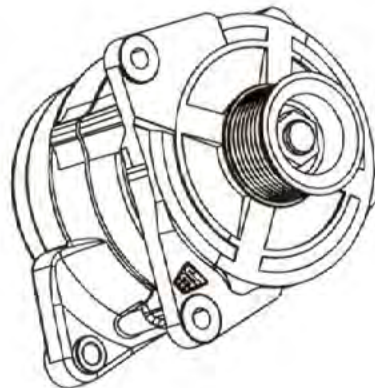
ITEM D - GL 475/42102 SCREW

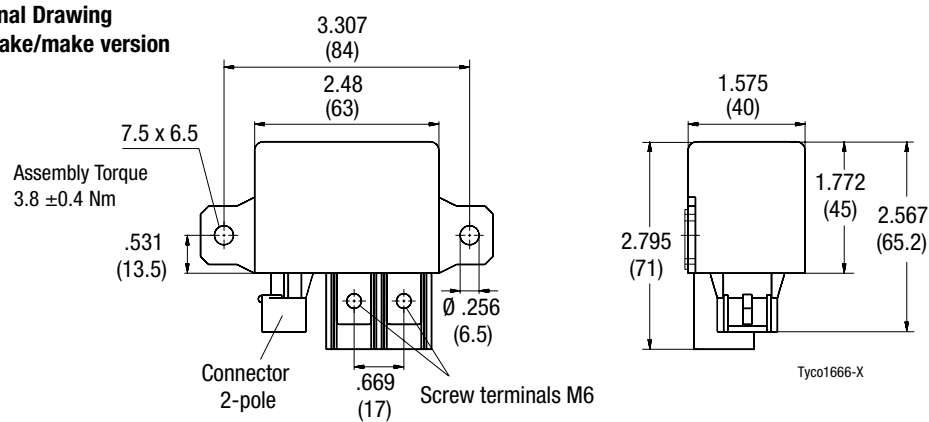
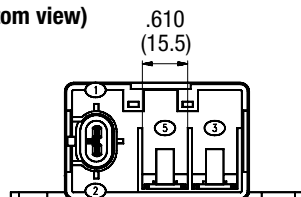
**Gear Switch Connections Y (475/42200)**

- 1 Forward/Reverse feed
- 2 Horn feed
- 3 Horn load
- 4 Reverse
- 5 Neutral
- 6 Forward

**ALTERNATOR
GL 320/08560**

12V 95 AMP



RELAY, START
GL 716/30252**Dimensional Drawing**
Double make/make version**View of the Terminal (bottom view)**

ECR1667-6

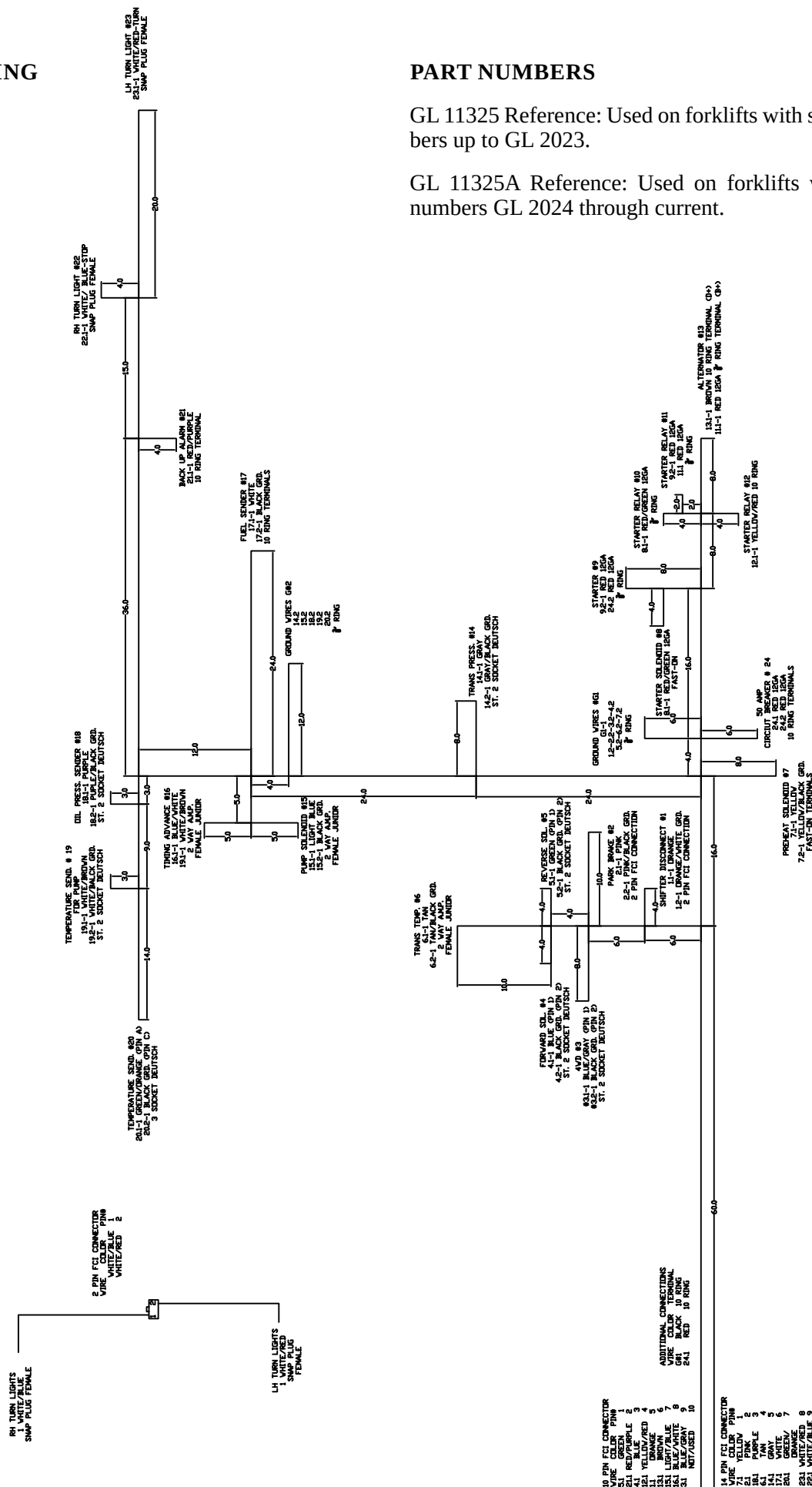
MAIN WIRING

HARNESS

PART NUMBERS

GL 11325 Reference: Used on forklifts with serial numbers up to GL 2023.

GL 11325A Reference: Used on forklifts with serial numbers GL 2024 through current.



FNR SWITCH WIRE HARNESS
GL 11330

CONNECTOR - 6 PIN FCI		FNR SHIFTER	
1 WIRE BLUE REVERSE	PIN #	CONNECTOR - 6 SOCKET DEUTSCH	PIN #
1 WIRE GREEN FORWARD	4	1 WIRE BLUE REVERSE	6
2 WIRES RED POWER	1 & 2	1 WIRE GREEN FORWARD	4
1 WIRE GRAY/BLACK NEUTRAL	5	2 WIRES RED POWER	1 & 2
1 WIRE GRAY/GREEN HORN	3	1 WIRE GRAY/BLACK NEUTRAL	5
		1 WIRE GRAY/GREEN HORN	3

BRAID WIRES
LEAVE 4" ON BOTH ENDS

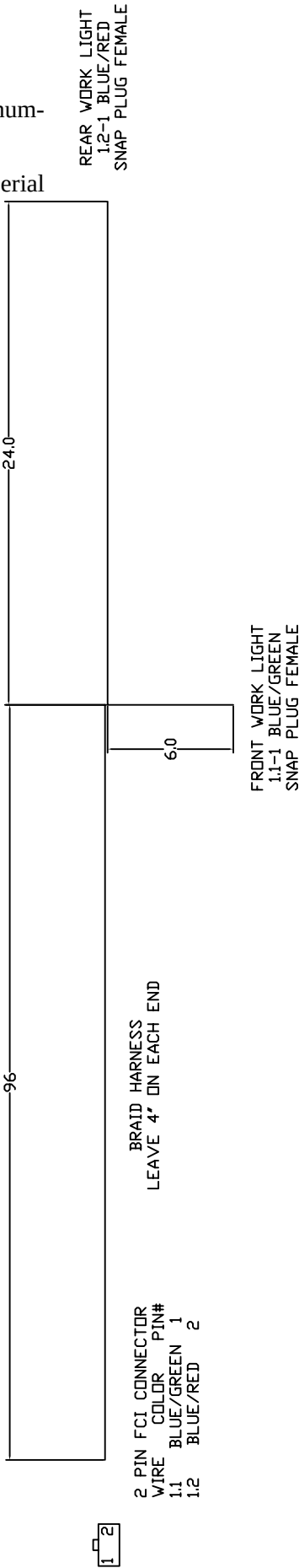
36.0

WORK LIGHTS HARNESS

PART NUMBERS

GL 11340 Reference: Used on forklifts with serial numbers up to GL 2023.

GL 11340A Reference: Used on forklifts with serial numbers GL 2024 through current.



ADDITIONAL ELECTRICAL COMPONENTS**REFERENCE: GL 2000 - GL 2023**

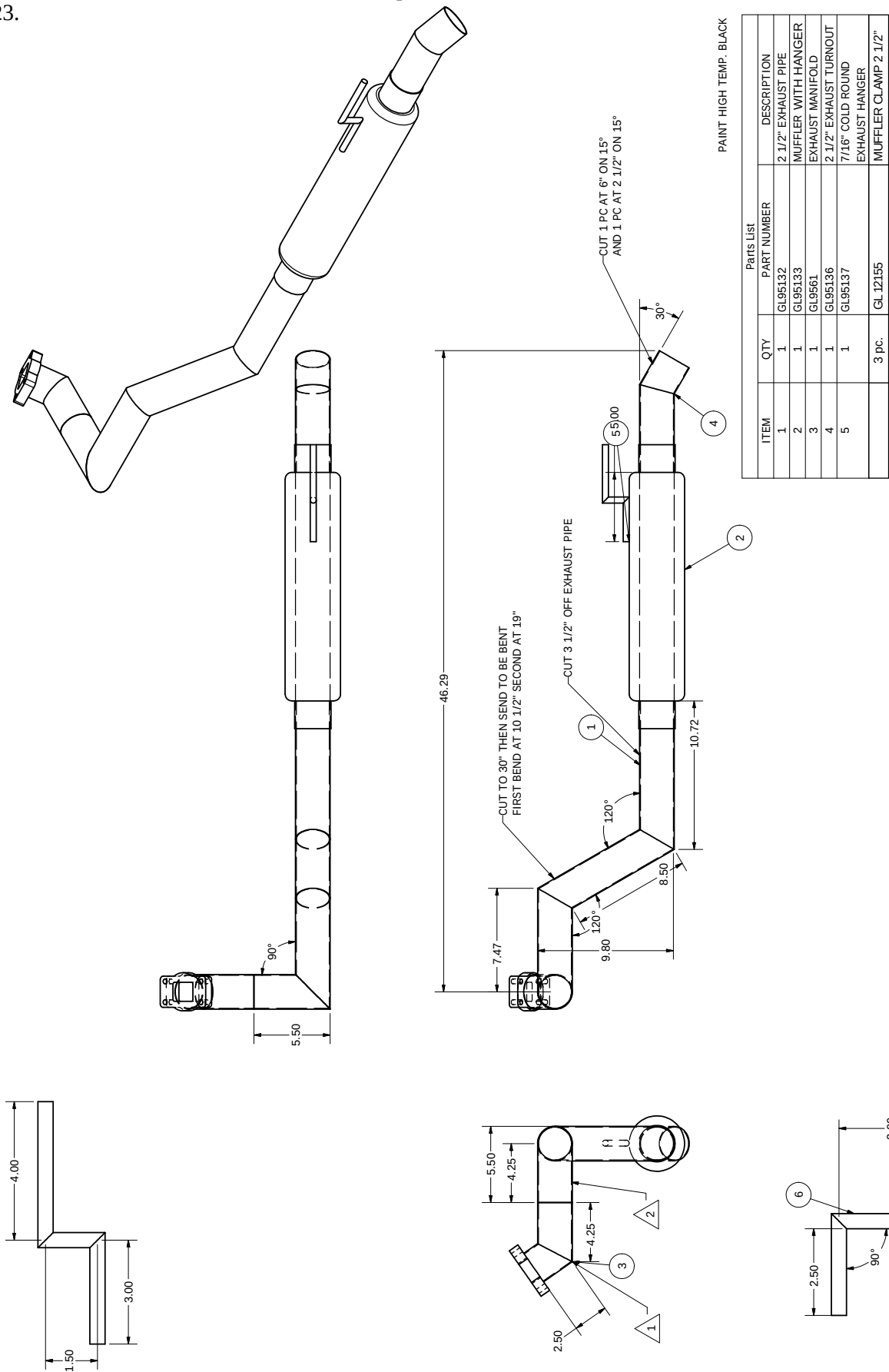
1. GL 11615 – Switch, Ignition – Qty = 1
2. GL 11010 – Flasher, Warning – Qty = 1
3. O SS581 – Solenoid – Qty = 1
4. GL 11605 – Relay, Bosch – Qty = 4

REFERENCE: GL 2024 - PRESENT

1. GL 11570 – Panel, Blank Control – Qty = 1
2. Gauges
 - a. GL 11575 – Hourmeter – Qty = 1
 - b. GL 11580 – Gauge, Fuel – Qty = 1
 - c. GL 11585 – Voltmeter – Qty = 1
 - d. GL 11660 – Gauge, Water Temperature – Qty = 1
 - e. GL 11655 – Sender, Temperature - Qty = 1
3. GL 11595 – Ind. Lights, 14V Red – Qty = 5
4. GL 11600 – Receptacle, 12V Power – Qty = 1
5. GL 11620 – Switch, On/Off 4WD – Qty = 1
6. GL 11625 – Switch, Flasher – Qty = 1
7. GL 11630 – Switch, Turn Signal – Qty = 1
8. GL 11635 – Switch, Light – Qty = 1
9. GL 12000 – Connector, Electrical - Qty = 4
10. GL 11965 – Holder, Fuse Relay – Qty = 1
11. GL 11955 – Flasher, LED 4 Pin Electronic – Qty = 1
12. GL 11975 – Relay, Micro – Qty = 3
13. GO 11783 – Switch, Starter – Qty = 1
14. GL 11985 – Switch, Ignition 2 Position – Qty = 1

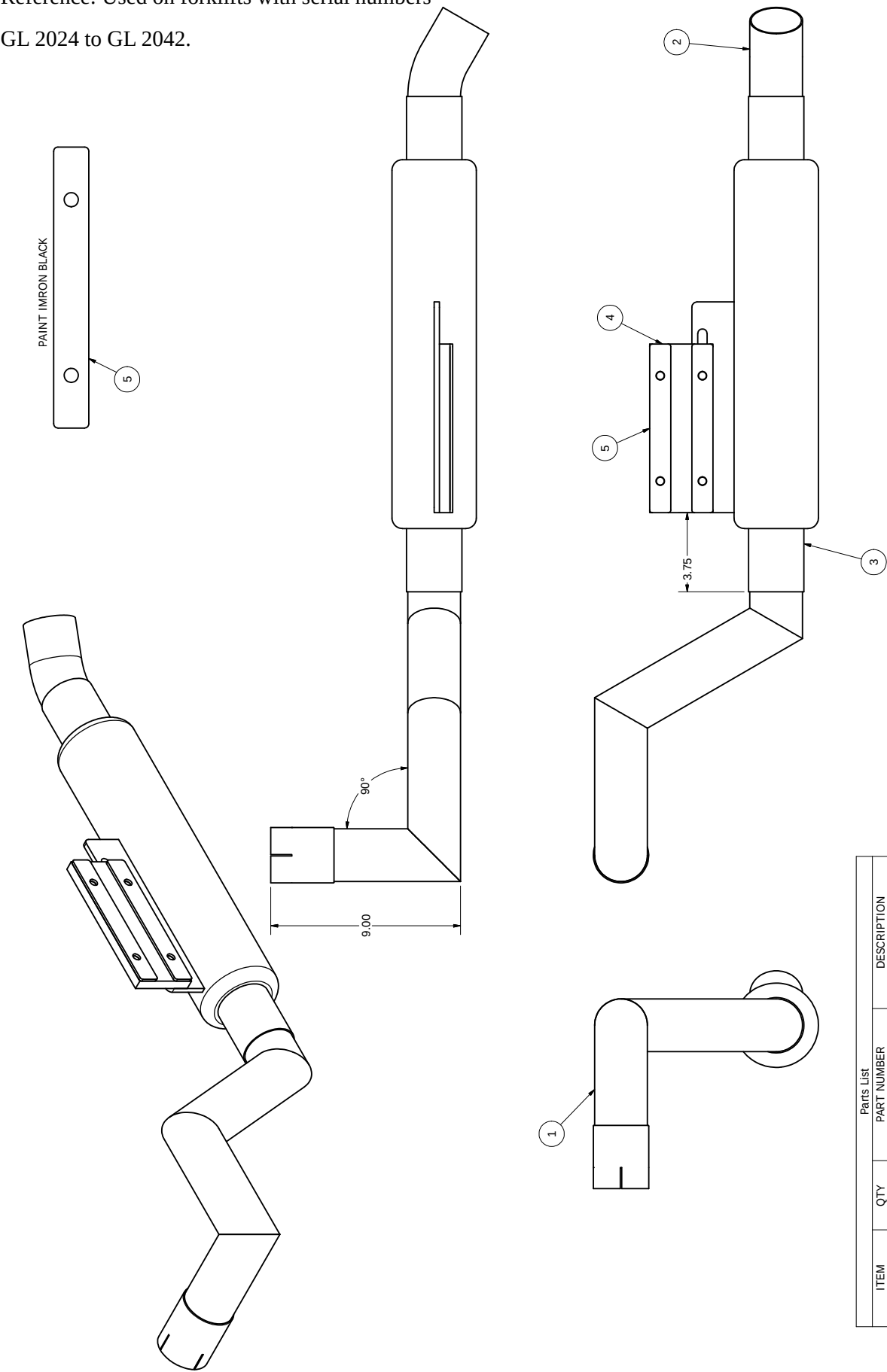
EXHAUST

Reference: Used on forklifts with serial numbers up to GL 2023.



EXHAUST

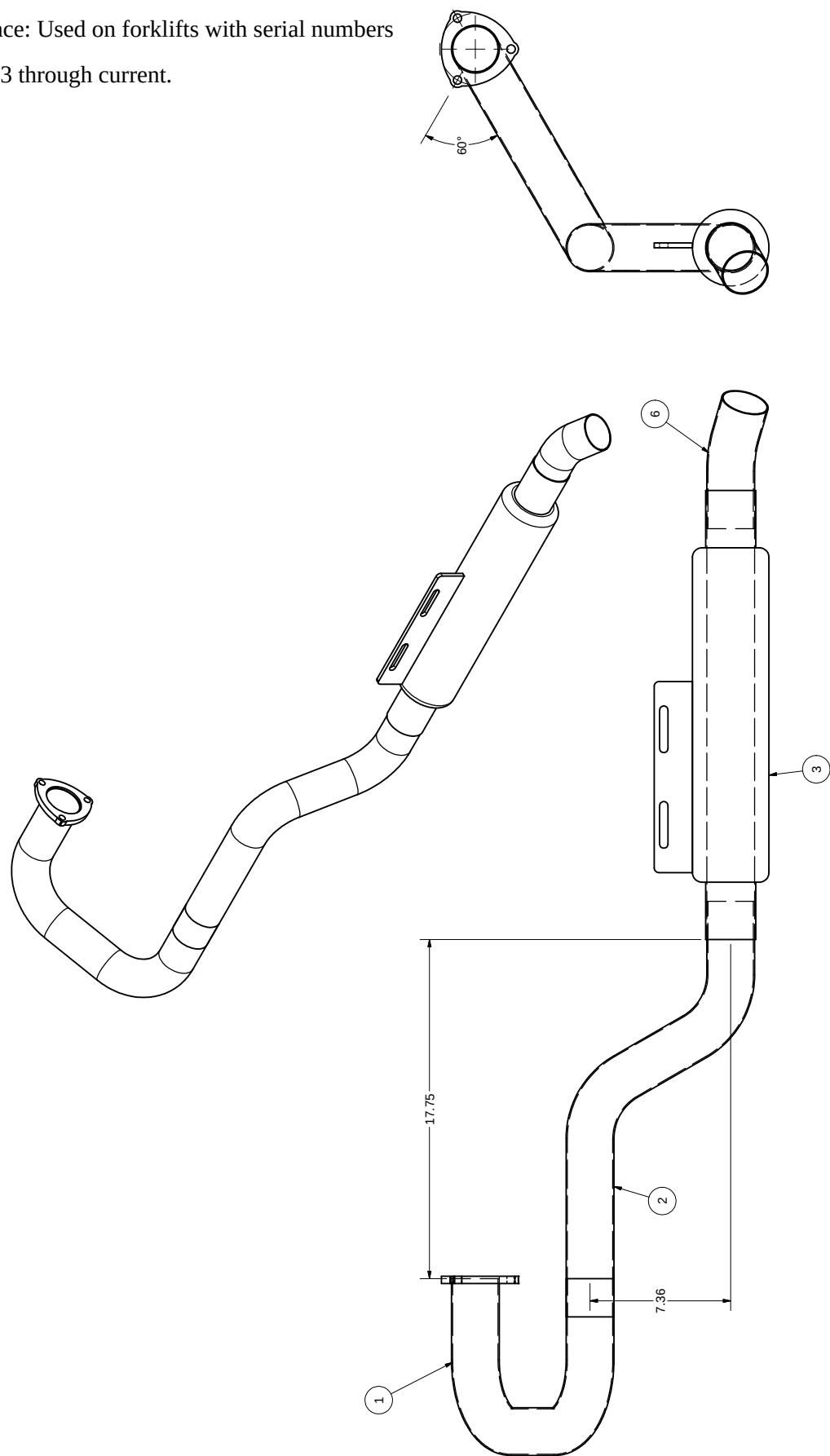
Reference: Used on forklifts with serial numbers
GL 2024 to GL 2042.



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95150	MANIFOLD PIPE 2 1/2" X 32"
2	1	GL95152	TURN OUT 2 1/2" X 8"
3	1	GL95153	MUFFLER
4	1	GL95157	RUBBER EXHAUST MT.
5	2	GL95158	EXHAUST RUBBER CLAMP
	3 pc.	GL12155	MUFFLER CLAMP 2 1/2"

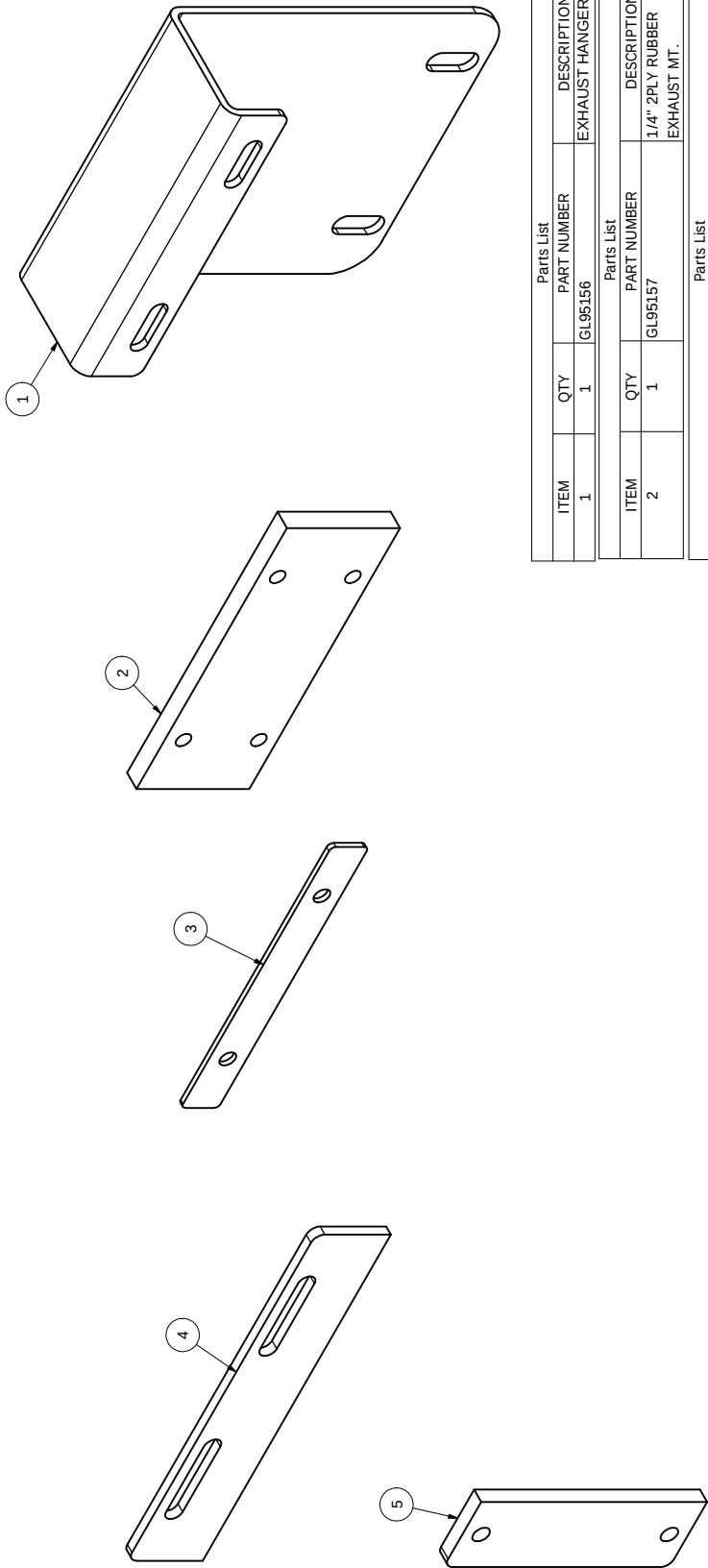
EXHAUST

Reference: Used on forklifts with serial numbers
GL 2043 through current.



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95A247	2 1/2" EXHAUST TUBE 180
2	1	GL95A248	2 1/2" EXHAUST TUBE OFFSET
3	1	GL95153	MUFFLER
6	1	GL95152	TURN OUT 2 1/2" X 8"
	3 pc.	GL 12155	MUFFLER CLAMP 2 1/2"

EXHAUST HANGER
GL 12385



Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95156	EXHAUST HANGER

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
2	1	GL95157	1/4" 2PLY RUBBER EXHAUST MT.

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
3	2	GL95158	EXHAUST RUBBER CLAMP

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
4	1	GL95155	MUFFLER MT.

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
5	1	GL9579F	EXHAUST HANGER

- NUTS AND BOLTS:
- 4PC - N 1265 LOCKNUT, 3/8"-16 NYLON
 - 4PC - N 1275 FLAT WASHER, 3/8"
 - 4PC - N1305 HHCS,3/8"-16 X 1 1/2"
 - 2PC - N1520 FLATWASHER,1/2"
 - 2PC - N1525 LOCKWASHER,1/2"
 - 2PC - N1545 HHCS, 1/2"-13 X 1"

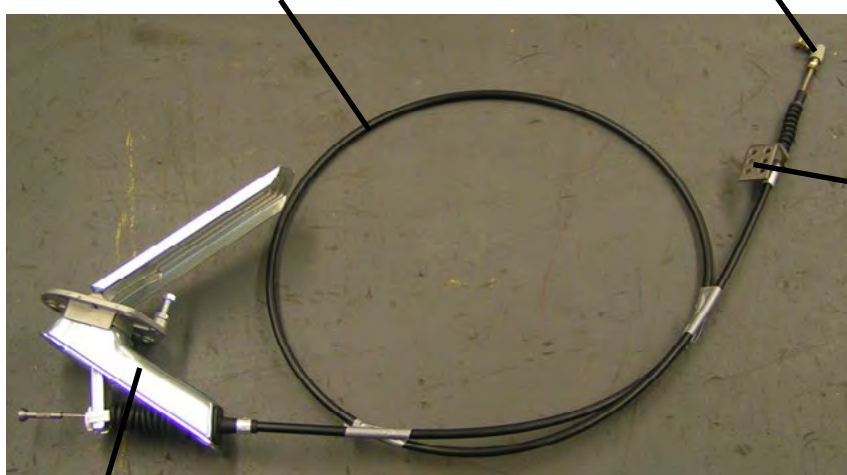
FILTERS

GVF 5000 Forklift Filters	TIER II	TIER III	TIER IV
Engine Oil Filter (same for all)	GL 11670	GL 11670	GL 11670
Fuel Pre-filter & Water Trap	GL 11675	GL 12535	GL 13400
Fuel Filter 5 Micron		GL 11680	GL 13405
Transmission Oil Filter		GL 11685	GL 11685
Hydraulic Oil Filter		GL 11690	GO 13656
Engine Air Filter - Primary	GL 11695	GL 12265	GL 13410
Engine Air Filter - Safety	GL 11700	GL 12270	GL 12270

THROTTLE**THROTTLE COMPONENTS****NLA - MUST ORDER GL 12745**

**GL 11150
CABLE, 7 FT. THROTTLE - NLA**

**MAP 031126
BALL JOINT**



**MAP 036174
CABLE, HOOK CLIP**

**O 60-2126-00
PEDAL ASSY., THROTTLE - NLA**

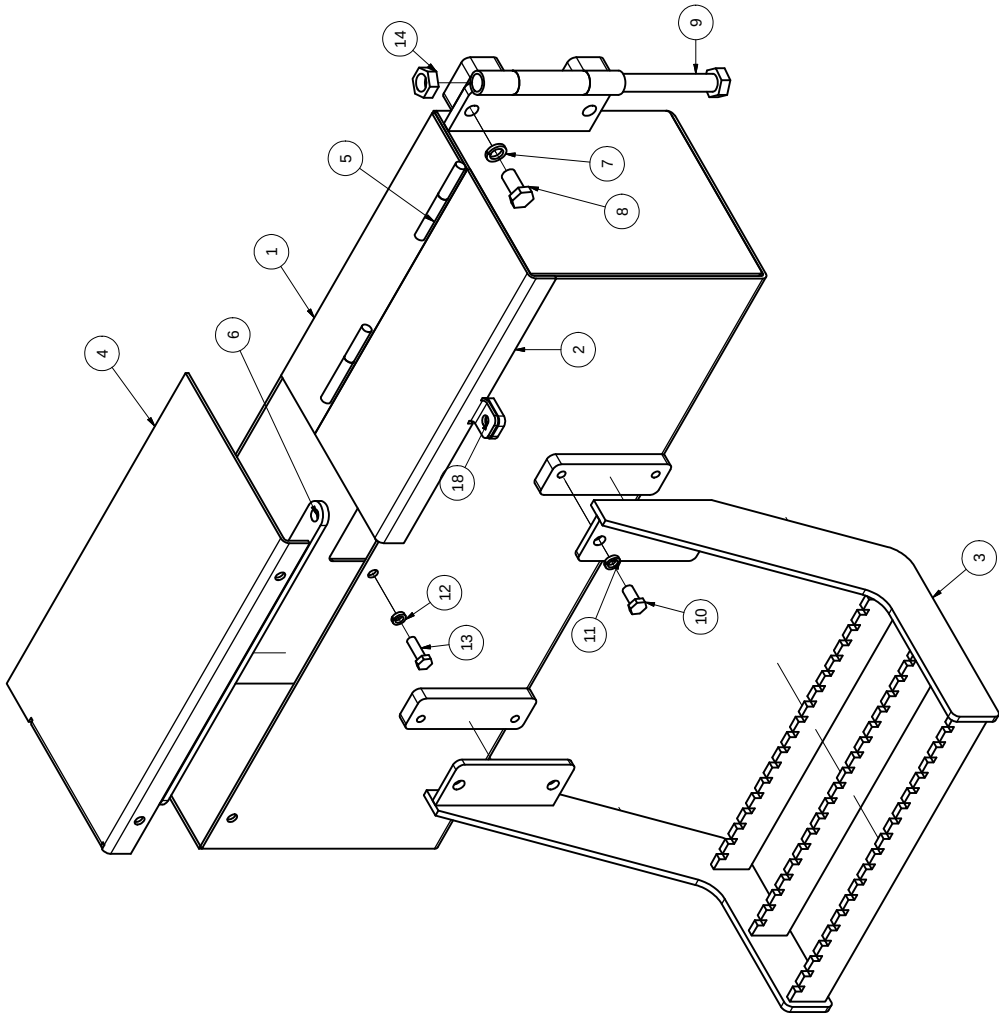
FRAME AND SHEET METAL

BATTERY BOX

Reference: Used on forklifts with serial numbers GL 2000 to GL 2023.

REVISION HISTORY				
ZONE	REV	DESCRIPTION USED	DATE	APPROVED
1	1	GL2000-GL2023	10/4/2007	Matt

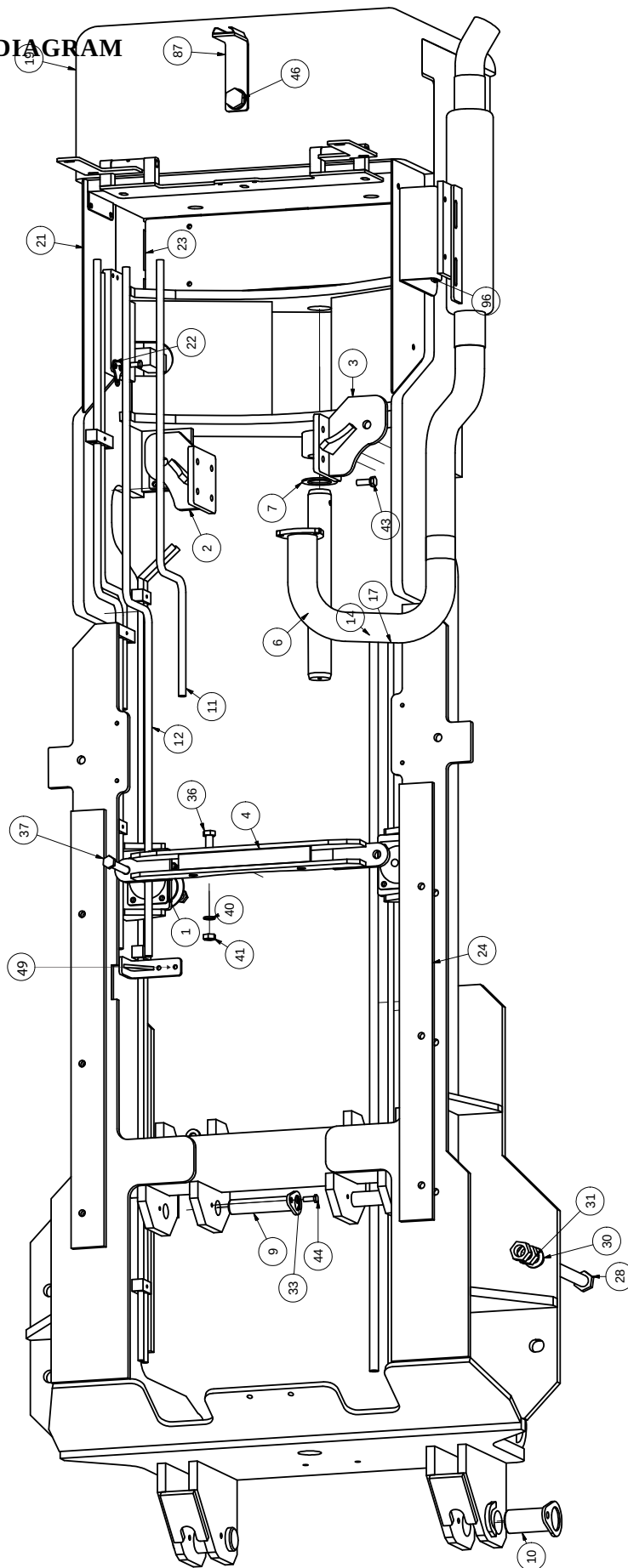
Parts List			DESCRIPTION	
ITEM	QTY	PART NUMBER		
1	1	GL95701		BATTERY AND TOOL BOX
2	1	GL95704		TOOL BOX TOP
3	1	GL95710		FOOT STEP BATTERY BOX SIDE
4	1	GL95703		BATTERY BOX TOP
5	2	O1221		HINGE
6	1	GL95214		BATTERY HOLD DOWN
7	4	N1525		LOCKWASHER 1/2"
8	4	N1545		HHCS 1/2"-13 X 1"
9	1	N1715		HHCS 5/8"-11 X 7"
10	4	N1295		HHCS 3/8"-16 X 3/4"
11	4	N1280		LOCKWASHER 3/8"
12	3	N1150		LOCKWASHER 5/16"
13	3	N1170		HHCS 5/16"-18 X 1"
14	1	N1625		HEX NUT 5/8"-11
15	2	N6380		CARRIAGE BOLT 3/8"-16 X 10"
16	2	N1270		HEX NUT 3/8"-16
17	2	N1280		LOCKWASHER 3/8"
18	1	M2709		LYNCH PIN 5/16"
19	1	K1283		BATTERY 31P-MHD 950 CCA



CHASSIS FRAME

MAIN CHASSIS FRAME DIAGRAM

Reference on next page

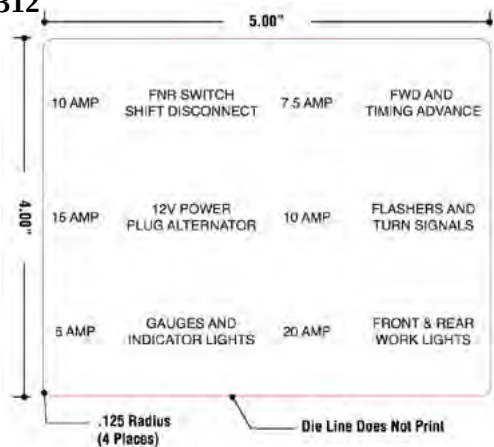


MAIN CHASSIS FRAME CHART

ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	GL 331/40347	RUBBER, MOUNTING
2	1	GL9552	RH ENGINE MT.
3	1	GL9553	LH ENGINE MT.
4	1	GL9555	TRANSMISSION MT.
5	1	GL9575	FUEL TANK
6	1	GL9581	AXLE PIVOT PIN
7	2	GL9580	THRUST WASHER
8	2	GL9584	MASS TILT CYL. PIN
9	2	GL9585	TILT CYL. PIN
10	2	GL9586	MAST MOUNTING PIN
11	2	GL95A121	5/8" HYD. TUBE - HYD. TANK TO COOLER
12	2	GL95A120	5/8" HYD. TUBE - TRANSMISSION TO COOLER
13	2	GL95129	1/2" HYD. TUBE - STEER MOTOR TO CYLINDER
14	1	GL95123	3/4" HYD. TUBE - PUMP TO HYD. VALVE
15	2	GL95127	PUMP HYD. TUBING MOUNT
16	3	GL95128	STEERING HYD. TUBING MOUNTS
17	1	GL95122	1/2" HYD. TUBE - PUMP TO STEERING
18	3	GL95220	1/8" PLATE
19	1	GL95W200	CAST WEIGHT 2500 LBS
20	1	GL95A204	HOOD PIVOT ASSEMBLY
21	2	GL95A209	FILLER PANEL
22	2	GL95A215	LOWER GAS SPRING MT.
23	1	GL95A216	BLOCK OFF UNDER RADIATOR
24	2	GL95A234	1/4" - 2 PLY RUBBER
25	2	GL95A126	TRANS. HYD. TUBING MOUNT 5/8" TUBES
26	1	GL95A128	TRANS COOLER TUBING MOUNTS 5/8" TUBING
27	1	GL9579F	EXHAUST HANGER
28	1	N1965	HHCS 1"-8 X 10"
30	1	N1865	FLATWASHER 1"
31	2	N1860	HEX NUT 1"-8
32	1	N1333	HHCS 3/8"-16 X 4"
33	4	N1280	LOCKWASHER 3/8"
34	2	N1270	HEX NUT 3/8"-16
35	1	N1305	HHCS 3/8"-16 X 1 1/2"
36	1	N1675	HHCS 5/8"-11 X 2"
37	1	N1685	HHCS 5/8"-11 X 4"
38	1	GL839-31272	REBOUND WASHER
40	2	N1635	LOCKWASHER 5/8"
41	2	N1625	HEX NUT 5/8"-11
42	1	N3360	12MM LOCKWASHER
43	1	N3370	HHCS 12MM -1.75 X 35MM GR 8.8
44	1	N1300	HHCS 3/8"-16 X 1"
45	1	N1295	HHCS 3/8"-16 X 3/4"
46	1	N1885	HHCS 1"-8 X 1 1/2"
47	1	N1870	LOCKWASHER 1"
48	1	GL95157	1/4" 2PLY RUBBER EXHAUST MT.
49	1	GH 11604	FILTER HEAD

DECALS**CLEAR FUSE DECAL**

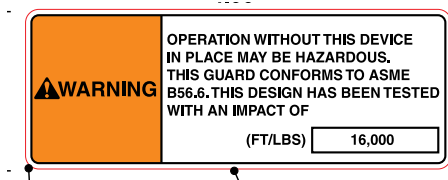
SP 6312

**GVF FORKLIFT NAMEPLATE**

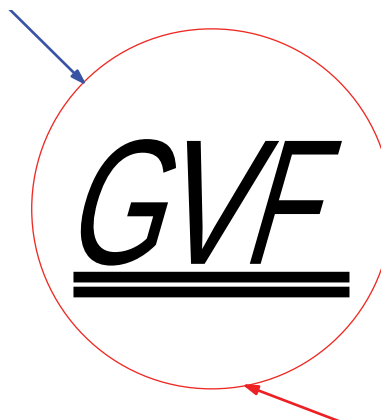
SP 6305

**ROPS LABEL**

SP 6300

**STEERING WHEEL DOME**

SP 6330

**MODEL LABEL**

SP 6295

**GVF 5000 TIER III DECAL**

SP 6345



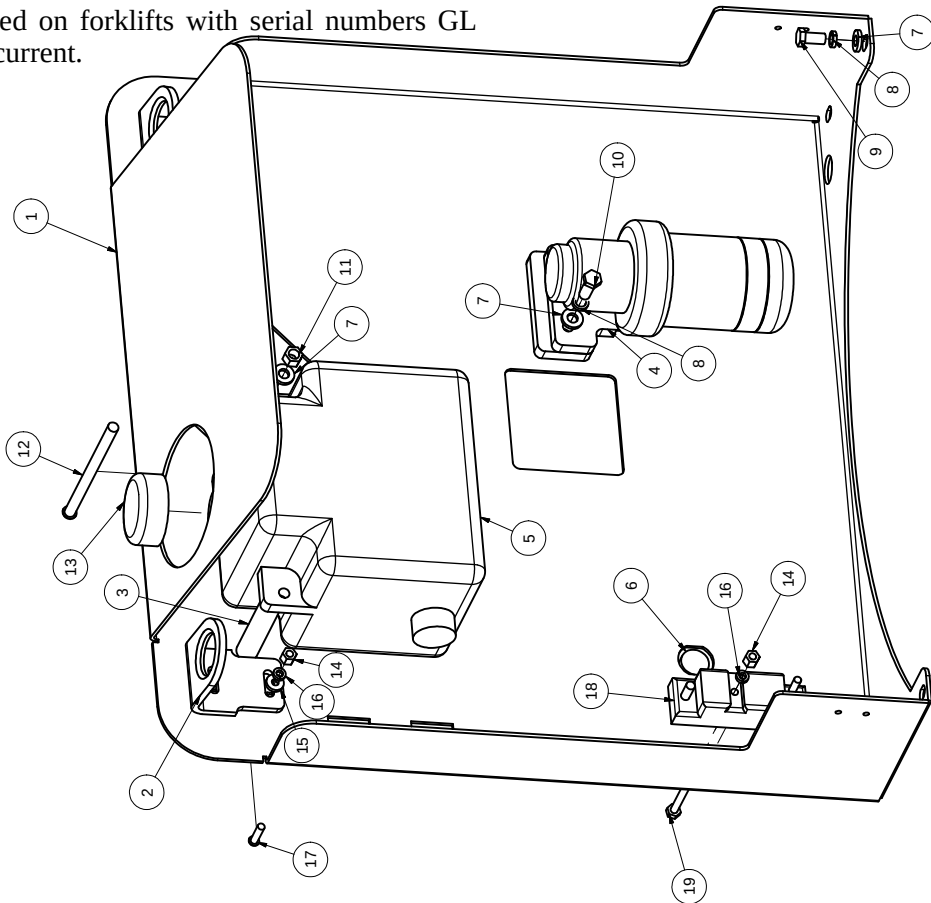
FORKLIFT DECAL SET
26 TOTAL
SP 6280



FIRE WALL
GL 95A203A

FIREWALL DIAGRAM AND CHART

Reference: Used on forklifts with serial numbers GL 2024 through current.

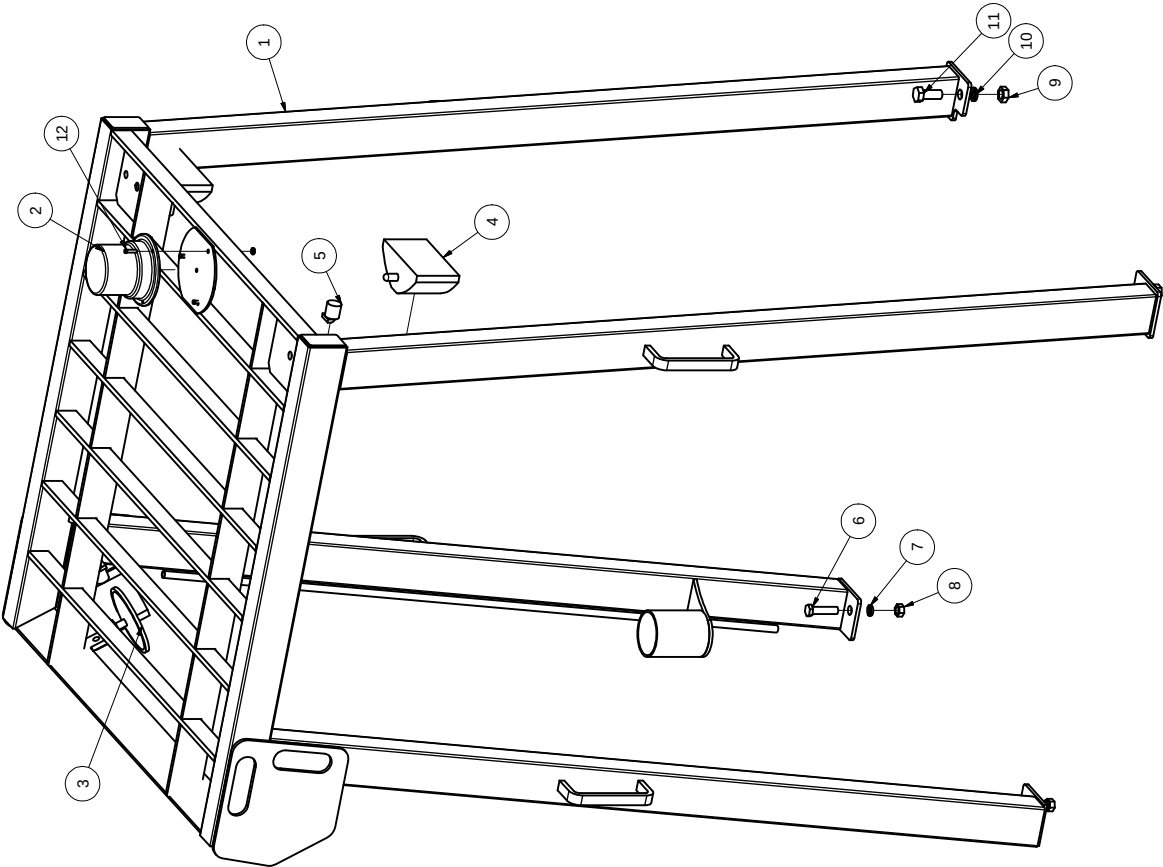


REVISION HISTORY		
REV	DESCRIPTION	DATE
1	GL2024-CURRENT	7/23/2009

Parts List		
ITEM	QTY	PART NUMBER DESCRIPTION
1	1	GL95A203A FIRE WALL TIER 3
2	2	GL95A213 HOOD GUIDE
3	2	GL95A217A OVERFLOW TANK MOUNTING TUBES
4	1	GL320-07140 TIER3 3/8" I.D. X 3/4" O.D. DOM
5	1	GL128-15313 FILTER ASSY, FUEL
6	1	GL11980 TANK EXPANSION
7	3	N1275 BATTERY LUG, REMOTE
8	2	N1280 FLATWASHER 3/8"
9	1	N1295 LOCKWASHER 3/8"
10	1	N1300 HHCS 3/8"-16 X 1"
11	1	N1270 HEX NUT 3/8"-16
12	1	NG350 CARRIAGE BOLT, 3/8-16 X 6
13	1	GL477-00223 CAP EXPANSION TANK
14	2	N1010 HEX NUT 1/4"-20
15	1	N1015 FLATWASHER 1/4"
16	2	N1020 LOCKWASHER 1/4"
17	1	6350 CARRIAGE BOLT, 3/8-16 X 6
18	1	GL11960 MODULE, POWER RELAY
18A	1	GL12205 FUSE, 20 AMP SLOW BLOW
18B	1	GL12210 FUSE, 50 AMP SLOW BLOW
19	1	N1050 HHCS 1/4"-20 X 2"

FALLING OBJECT PROTECTION SYSTEM

FOPS DIAGRAM AND CHART

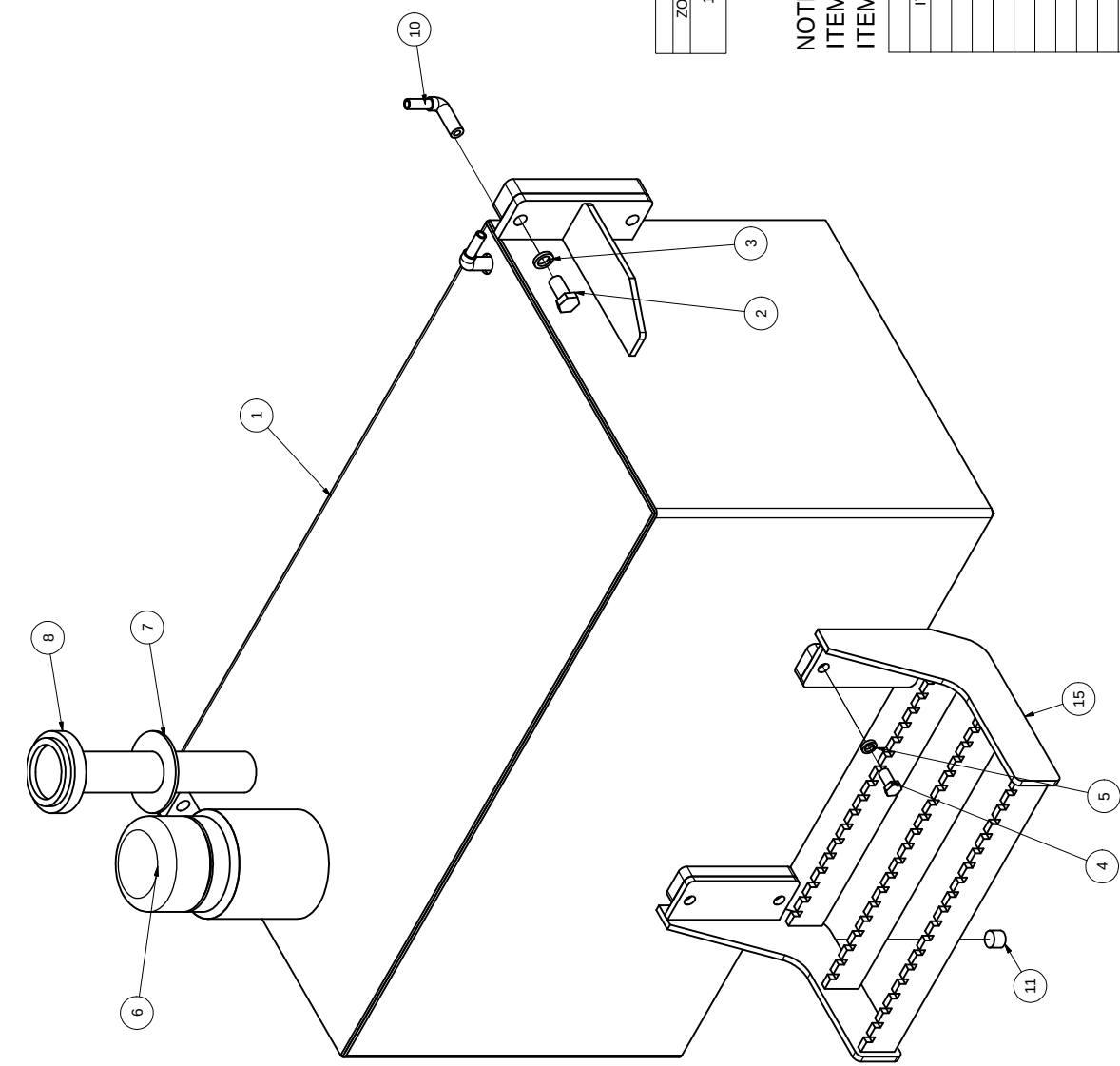


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL 12170	FOPS FRAME WORK 44" CLEARANCE BETWEEN SEAT BOTTOM OF FRAMEWORK
2	1	GVF 5010	WARNING BEACON
3	1	GL11385	MIRROR 5" CONVEX
4	4	GL11915	LAMP COMPOSITE WORK 12V
5	4	GL11916	BULB REPLACEMENT
6	2	N1555	HHCS 1/2"-13 X 2"
7	2	N1525	LOCKWASHER 1/2"
8	2	N1515	HEX NUT 1/2"13
9	2	N1625	HEX NUT 5/8"-11
10	2	N1635	LOCKWASHER 5/8"
11	2	N1660	HHCS 5/8"-11 X 1 1/2"
12	3	N4020	FHCS 10-32 X 3/4"
13	3	N9420	NUT 10-32
14	2	GL11340A	HARNES WORK LIGHT (NOT ILLUSTRATED)

FUEL TANK

FUEL TANK DIAGRAM AND CHART

Reference: Used on forklifts with serial numbers GL 2000 through current.



REVISION HISTORY			
ZONE	REV	DESCRIPTION USED	DATE APPROVED
1	1	GL2000-CURRENT	10/3/2007 Matt

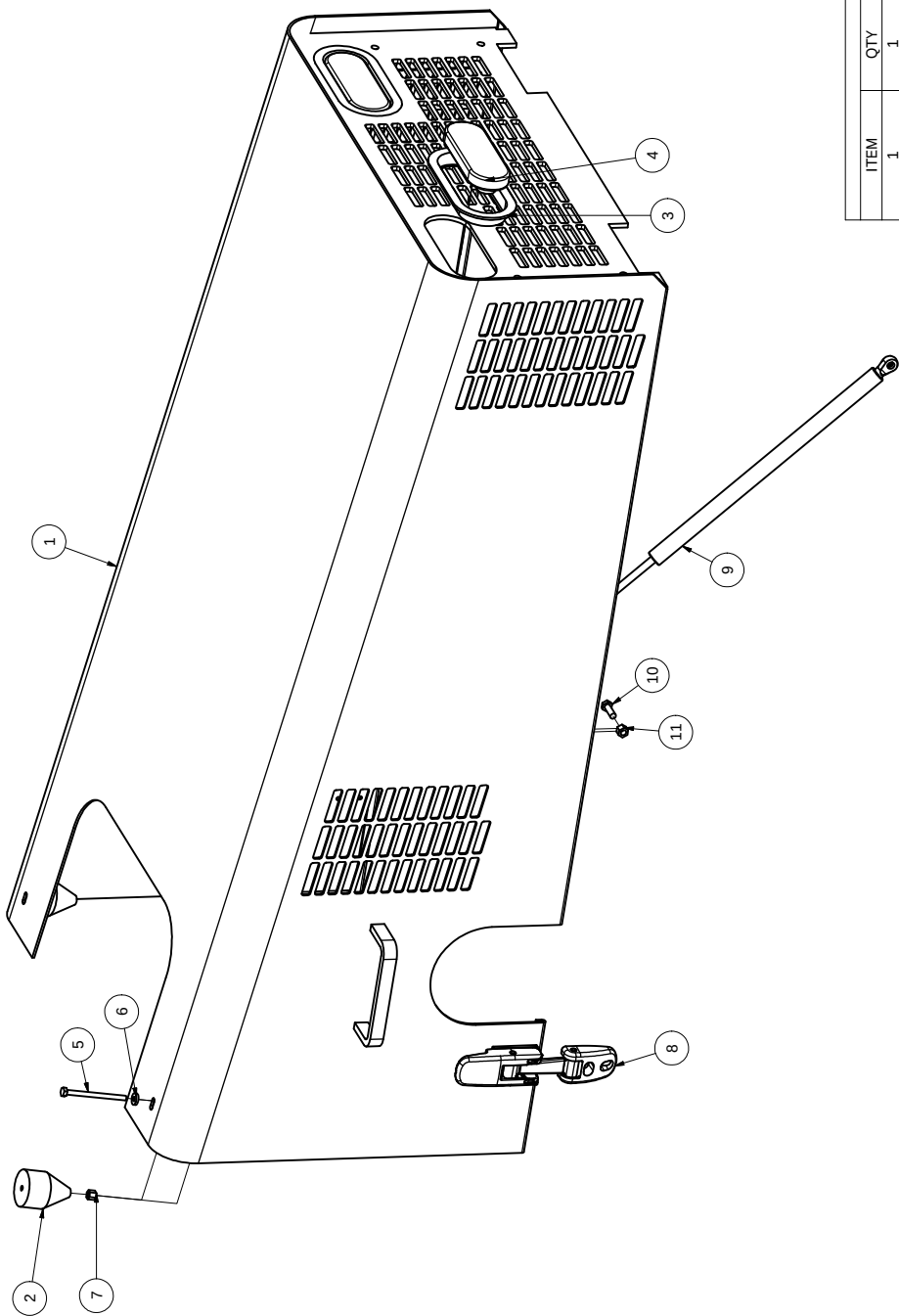
NOTE:
ITEM 8 INCLUDES
ITEMS 7 AND 9

Parts List		
ITEM	QTY	DESCRIPTION
1	1	FUEL TANK ASSEMBLY
2	4	HCS 1/2"-13 X 1"
3	4	LOCKWASHER 1/2"
4	4	HCS 3/8"-16 X 3/4"
5	4	LOCKWASHER 3/8"
6	1	FILLER CAP ASSEMBLY
7	1	FUEL SENDER GASKET
8	1	FUEL LEVEL SENDING UNIT
9	1	NUT AND BOLT PACK FUEL SENDER
10	2	HOSEBARB 5/16" - 3/8"NPT 90
11	1	1/2" NPT PLUG 1 1/4 TANK FITTING
12	1	ANTI SLIP TREAD SOLD PER-FT
13	2	TANK REINFORCEMENT
14	2	1/2" PLATE
15	1	STEP ASSEMBLY FUEL TANK SIDE

HOOD

HOOD DIAGRAM AND CHART

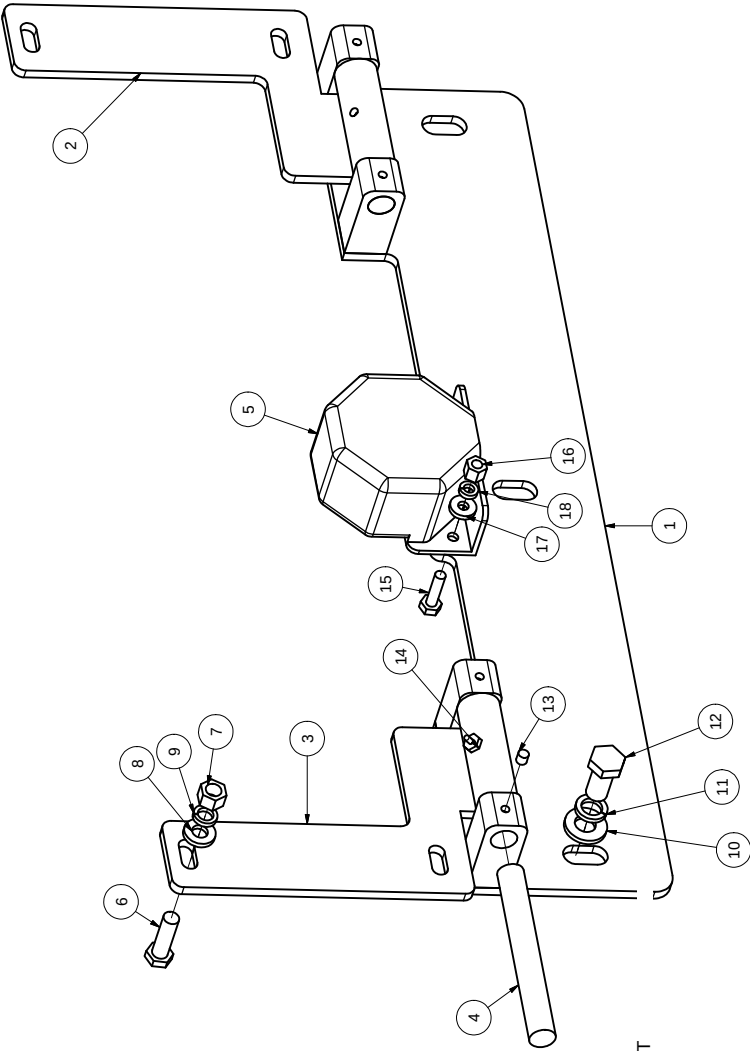
Reference: Used on forklifts with serial numbers GL 2024 through current.



REVISION HISTORY			
REV	S/N	USED	DATE
1	GL2024-CURRENT		9/11/2008

Parts List			DESCRIPTION
ITEM	QTY	PART NUMBER	
1	1	GL95A200	HOOD FORMED TIER II ENGINE
1A	1	GL95A200A	HOOD FORMED TIER III ENGINE
2	2	GL95A211	HOOD GUIDE, TAPERED
3	2	GL11990	GROMMET RUBBER
4	2	GL11095	LAMP, LED AMBER
5	2	N1065	HHCS 1/4"-20 X 3 1/2"
6	2	N1015	FLATWASHER 1/4"
7	2	N1005	LOCKNUT 1/4"-20 NYLON INSERT
8	2	GL11860	LATCH
9	2	GL12625	SPRING, 75LB FORCE GAS W/2 CLEVISES
10	2	N1170	HHCS 5/16"-18 X 1"
11	2	N1140	HEX NUT 5/16"-18

HOOD HINGE DIAGRAM AND CHART

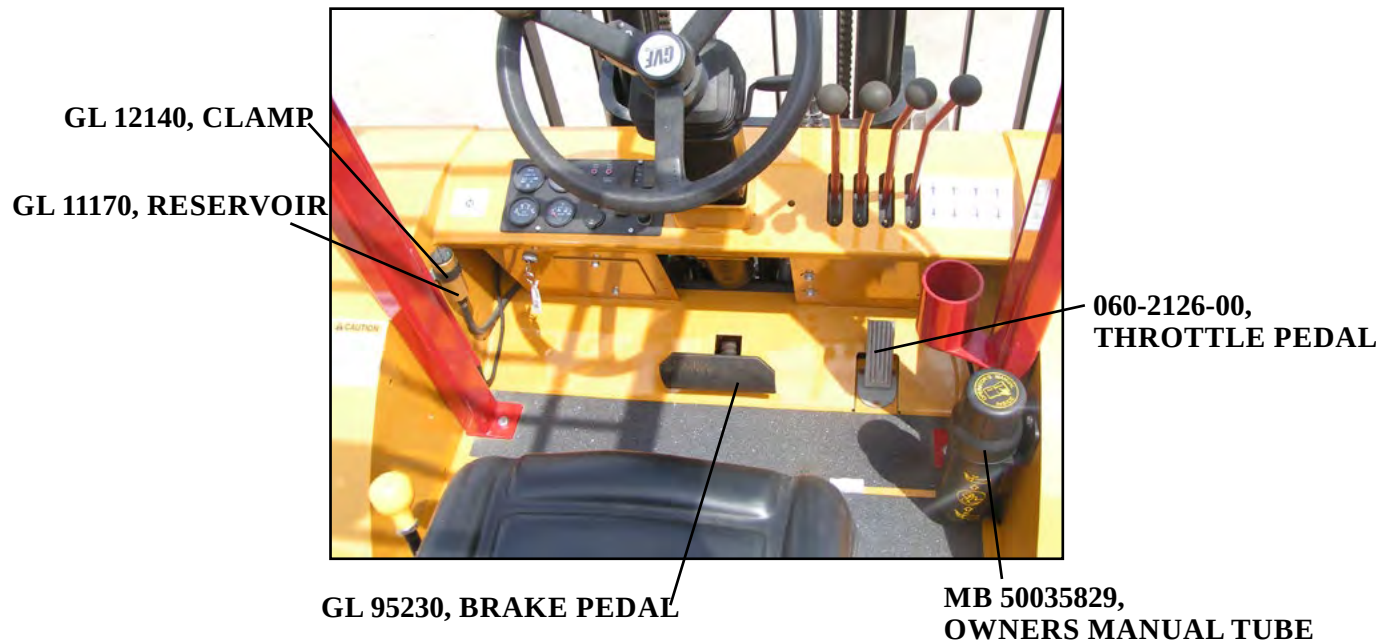


REVISION HISTORY			
REV	S/N	USED	DATE
1		2024-CURRENT	7/24/2009

Parts List			DESCRIPTION	
ITEM	QTY	PART NUMBER		
1	1	GL95A204	HOOD HINGE MT.	
2	1	GL95A205	RH HINGE	
3	1	GL95A205L	LH HINGE	
4	2	GL95A207	HOOD HINGE PIN	
5	1	GL11090	ALARM, BACK UP	
6	4	N1303	HHCS 3/8"-16 X 1 1/4"	
7	4	N1270	HEX NUT 3/8"-16	
8	4	N1275	FLATWASHER 3/8"	
9	4	N1280	LOCKWASHER 3/8"	
10	3	N1520	FLATWASHER 1/2"	
11	3	N1525	LOCKWASHER 1/2"	
12	3	N1545	HHCS 1/2"-13 X 1"	
13	4	N9835	SET SCREW 1/4"-20 X 1/4"	
14	2	D2004	1/4"-28 GREASE FITTING STRAIGHT SHORT	
15	2	N1035	HHCS 1/4"-20 X 1"	
16	2	N1010	HEX NUT 1/4"-20	
17	2	N1015	FLATWASHER 1/4"	
18	2	N1020	LOCKWASHER 1/4"	

OPERATOR'S PLATFORM

OPERATOR'S PLATFORM COMPONENTS



Operator's Platform Components Continued



PAINT

YELLOW SP 3164 (GAL)

RED SP 3165 (GAL)

BLACK SP 3166 (GAL)

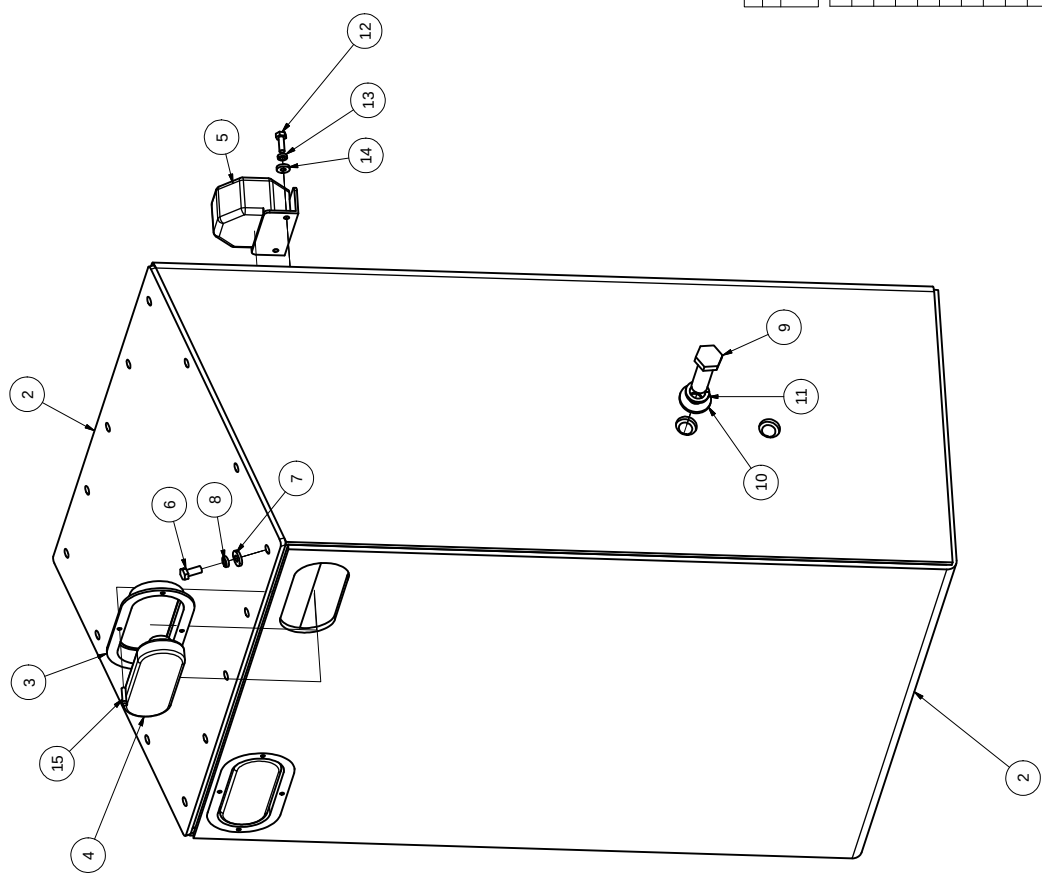
SPRAY CANS:

G 2020 GVF RED AEROSOL

G 2015 GVF YELLOW AEROSOL

WEIGHT BOX

Reference: Used on forklifts with serial numbers GL 2000 through GL 2023.



REVISION HISTORY			
REV	S/N	USED	DATE
1	GL2000-GL2023		9/11/2008

Parts List			DESCRIPTION
ITEM	QTY	PART NUMBER	
1	1	GL9533	WEIGHT BOX ASSEMBLY
2	1	GL9598	TOP
3	2	GL11991	GROMMET STAINLESS STEEL
4	2	GL11100	LAMP, LED RED
5	1	GL11090	ALARM, BACK UP
6	14	N1165	HHCS 5/16"-18 X 3/4"
7	14	N1145	FLATWASHER 5/16"
8	14	N1150	LOCKWASHER 5/16"
9	7	N1785	HHCS 3/4"-10 X 2 1/2"
10	7	N1750	FLATWASHER 3/4"
11	7	N1755	LOCKWASHER 3/4"
12	2	N 1035	HHCS 1/4"-20 X 1"
13	2	N1020	LOCKWASHER 1/4"
14	2	N1015	FLATWASHER 1/4"
15	8	N9775	MACHINE SCREW, 10-24 X 3/4" SS

HYDRAULIC SYSTEM

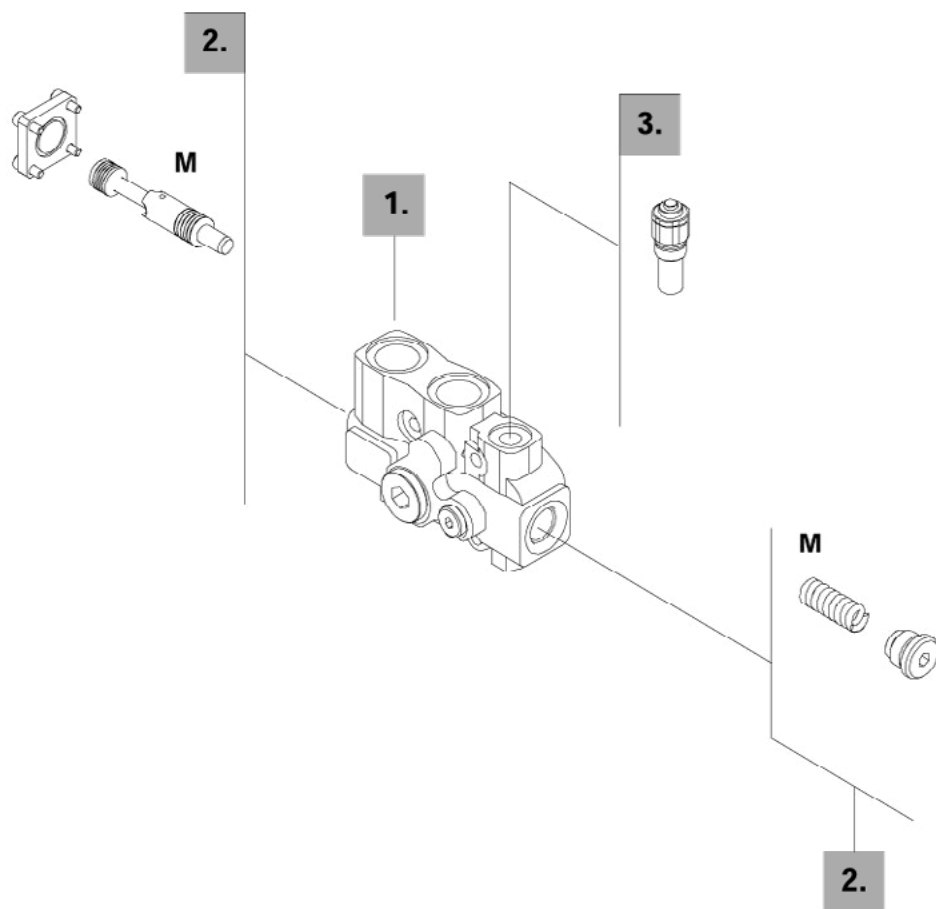
CONTROL VALVE,
DLS 8/4 4 BANK
GL 11030

CUT OFF: 3XTAP624180 SPECIAL CUT OFF
PLUG
SEAL KIT: GL 5GUA008100

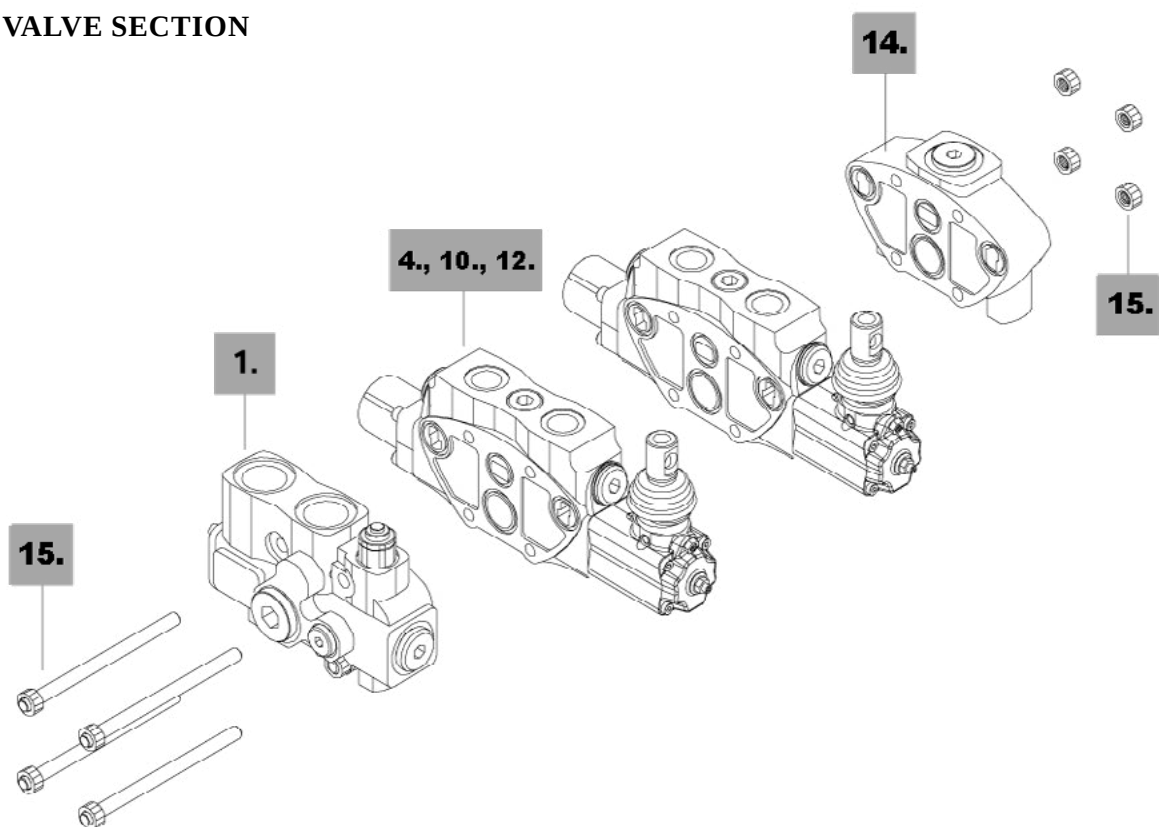
COMPONENT	ITEM NO.	PART NUMBER	QTY.	DESCRIPTION
GL 12370 INLET SECTION pg. 40	1	GL 61C371000	1	INLET SECTION
	2	5KIT008300	1	COMPENSATOR KIT
	3	XCAR602200 GL 12350	1	MAIN RELIEF 2500 PSI
GL 12425 LIFT VALVE SECTION pg. 40 & 41	4	5EL1087000	1	WORKING SECTION
	5	3CU3410091	1	SPOOL
	6	5V08108010 GL 12090	1	SPOOL POSITIONER
	7	5LEV108710	1	LEVER WITH STROKE LIMITERS
	8	3XTAP524290	2	PORT RELIEF PLUG - SPECIAL CUT OFF
GL 12430 TILT VALVE SECTION pg. 40 & 41	10	61C151002	1	WORKING SECTION
	11	3CU3410020	1	SPOOL
	6	5V08108010	1	SPOOL POSITIONER
	7	5LEV108710	1	LEVER WITH STROKE LIMITERS
	8	3XTAP524290	2	PORT RELIEF PLUG
GL 12430 SIDE SHIFT VALVE SECTION pg. 40 & 41	10	61C151002	1	WORKING SECTION
	11	3CU3410020	1	SPOOL
	6	5V08108010	1	SPOOL POSITIONER
	7	5LEV108710	1	LEVER WITH STROKE LIMITERS
	8	3XTAP524290	2	PORT RELIEF PLUG
GL 12435 AUX VALVE SECTION pg. 40 & 41	12	61C171601	1	WORKING SECTION
	11	3CU3410020	1	SPOOL
	6	5V08108010	1	SPOOL POSITIONER
	7	5LEV108710	1	LEVER WITH STROKE LIMITERS
	13	3XCAR208114	2	PORT RELIEF 2600-5100 PSI
GL 61C471000 RETURN COVER pg. 41	14	GL 61C471000	1	OUTLET SECTION
GL 5TIR108251 TIE BOLTS pg. 40	15	5TIR108251	4	BOLTS AND NUTS

WORKING SECTIONS INCLUDE BODY, RINGS, SEALS AND LOAD CHECK VALVE

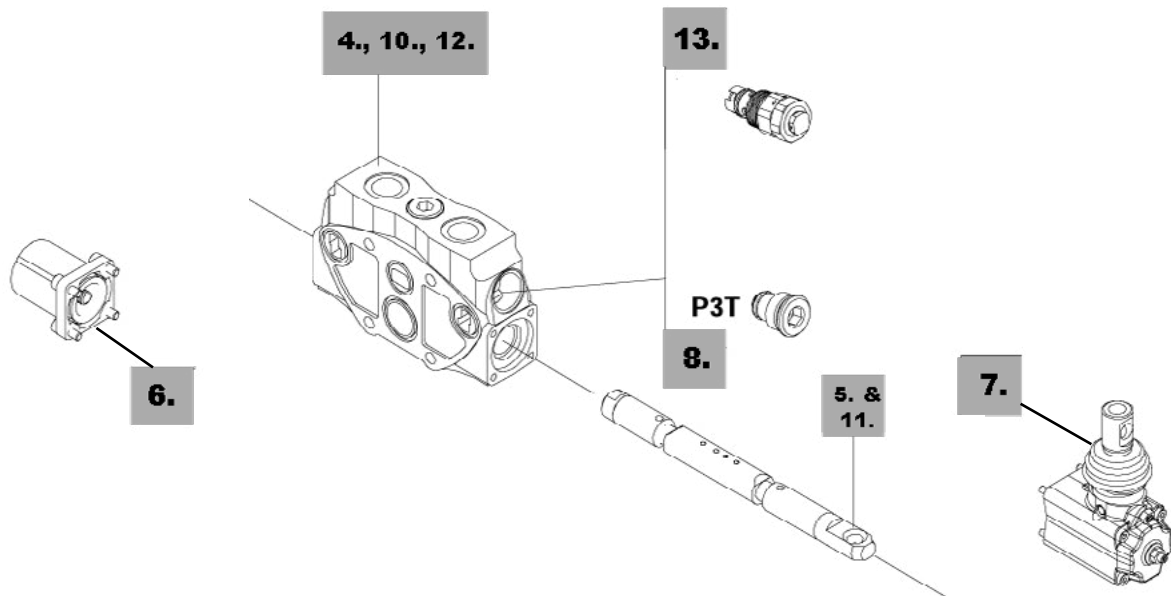
INLET SECTION



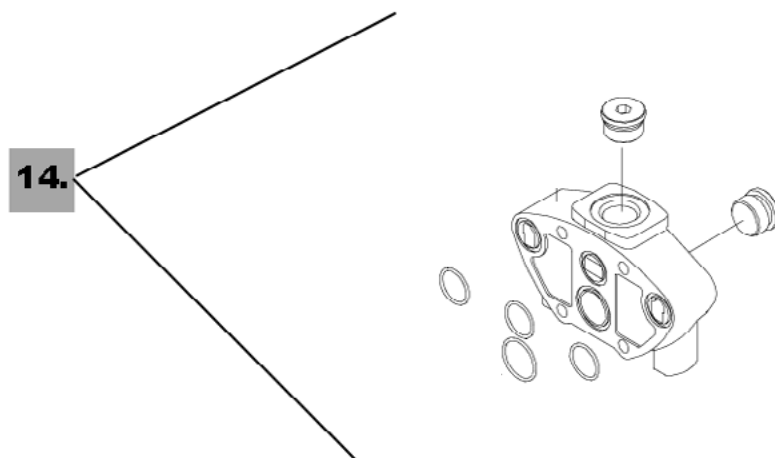
LIFT VALVE SECTION



WORK SECTION

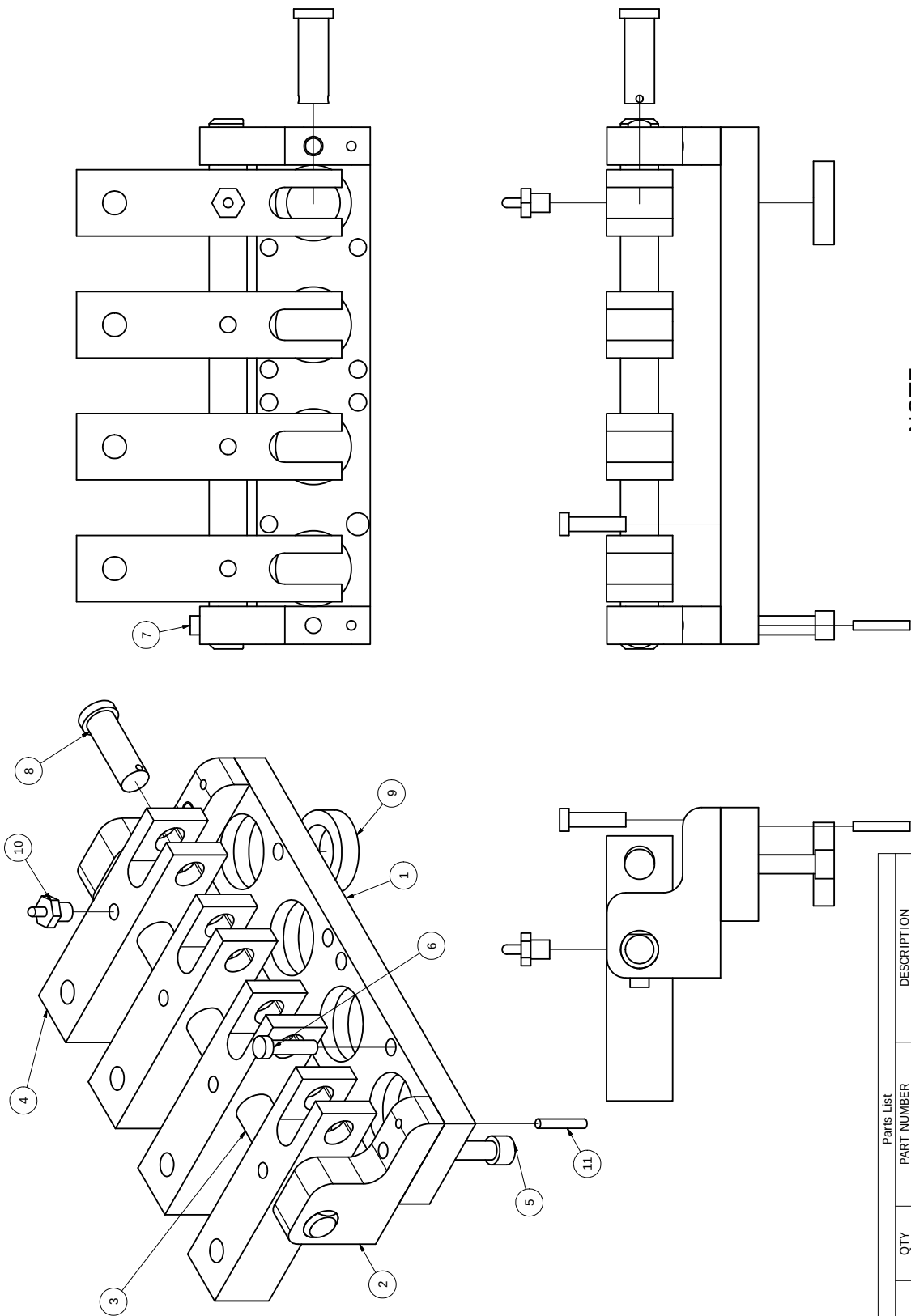


OUTLET SECTION



VALVE PIVOT ASSEMBLY

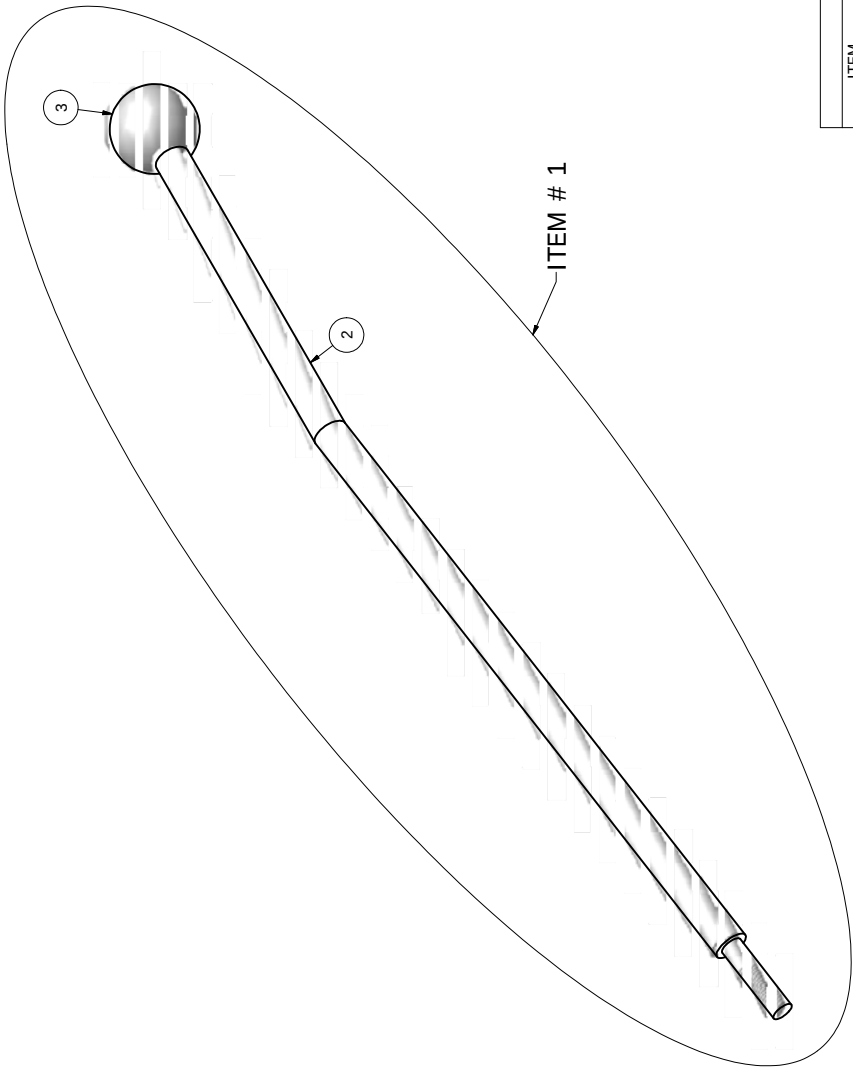
VALVE PIVOT ASSEMBLY DLS 8
GL 95A225, VALVE PIVOT MOUNT



NOTE:
APPLY BLUE LOCTITE TO ALL BOLTS

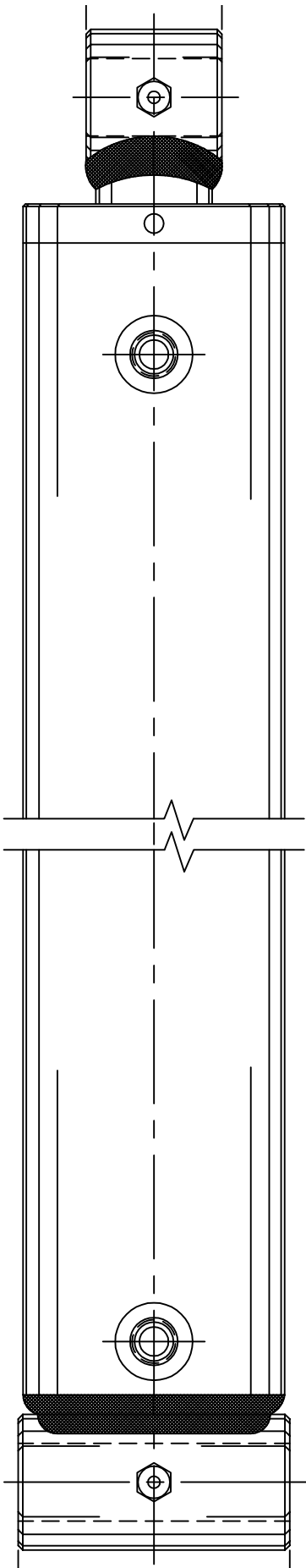
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95A225	VALVE PIVOT MOUNT
2	2	GL95A226	INCLUDES ITEM 1, 2, 5 AND 11
3	1	GL95A228	1/2" X 1 1/2" COLD FLAT
4	4	GL95A227	PIVOT PIN 1/2" THOMPSON
5	2	N2030A	SHAFTING
6	8	N2930	SPOOL LEVER ARM 7/8" OLD
7	2	N9836	SQ.
8	4	GL12105	SHCS 1/4"-28 X 3/4"
9	4	GL12110	SHCS M5-0.80 X 20MM GR8
10	4	D2004	SET SCREW 1/4"-28 X 1/4"
11	4	GL12195	CLEVIS PIN, 10 X 29MM
			SEAL, 18.0 X 28 X 7.0
			1/4"-28 GREASE FITTING
			STRAIGHT SHORT
			DOWEL 1/8" X 3/4"

HANDLE WITH BALL KNOB
GL 95323

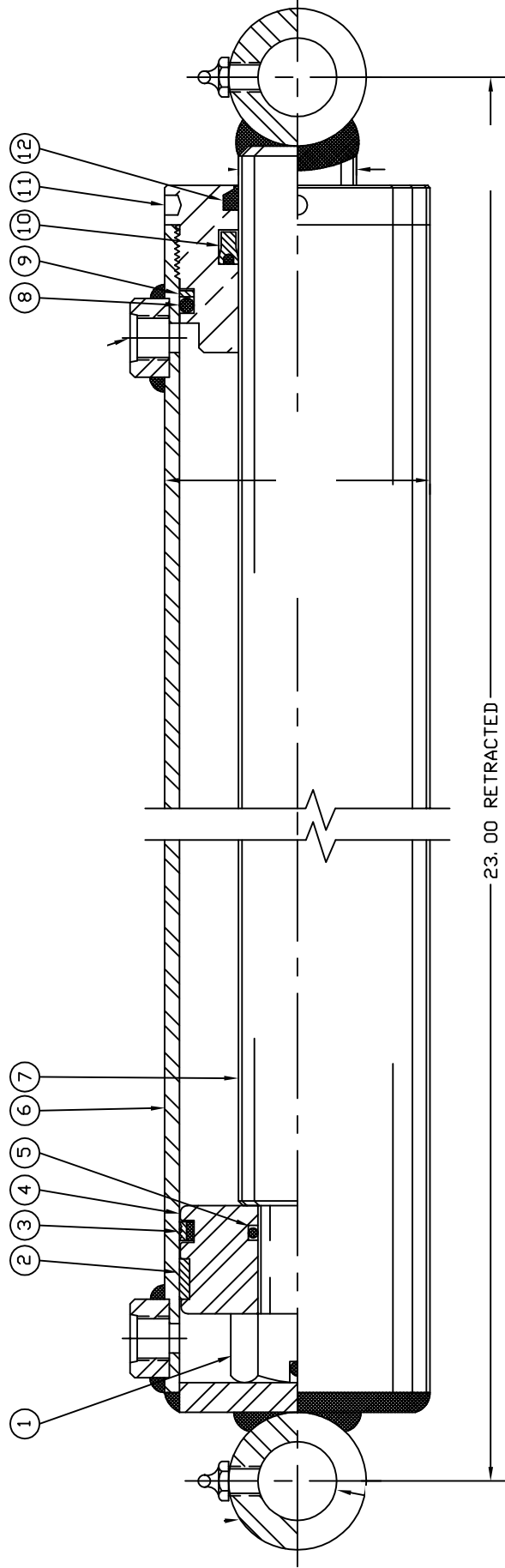


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL95323	HANDLE W/BALL KNOB ASSEMBLY
3	1	GL11745	BALL KNOB
	1	N1140	HEX NUT 5/16"-18
	1	N1150	LOCKWASHER 5/16"

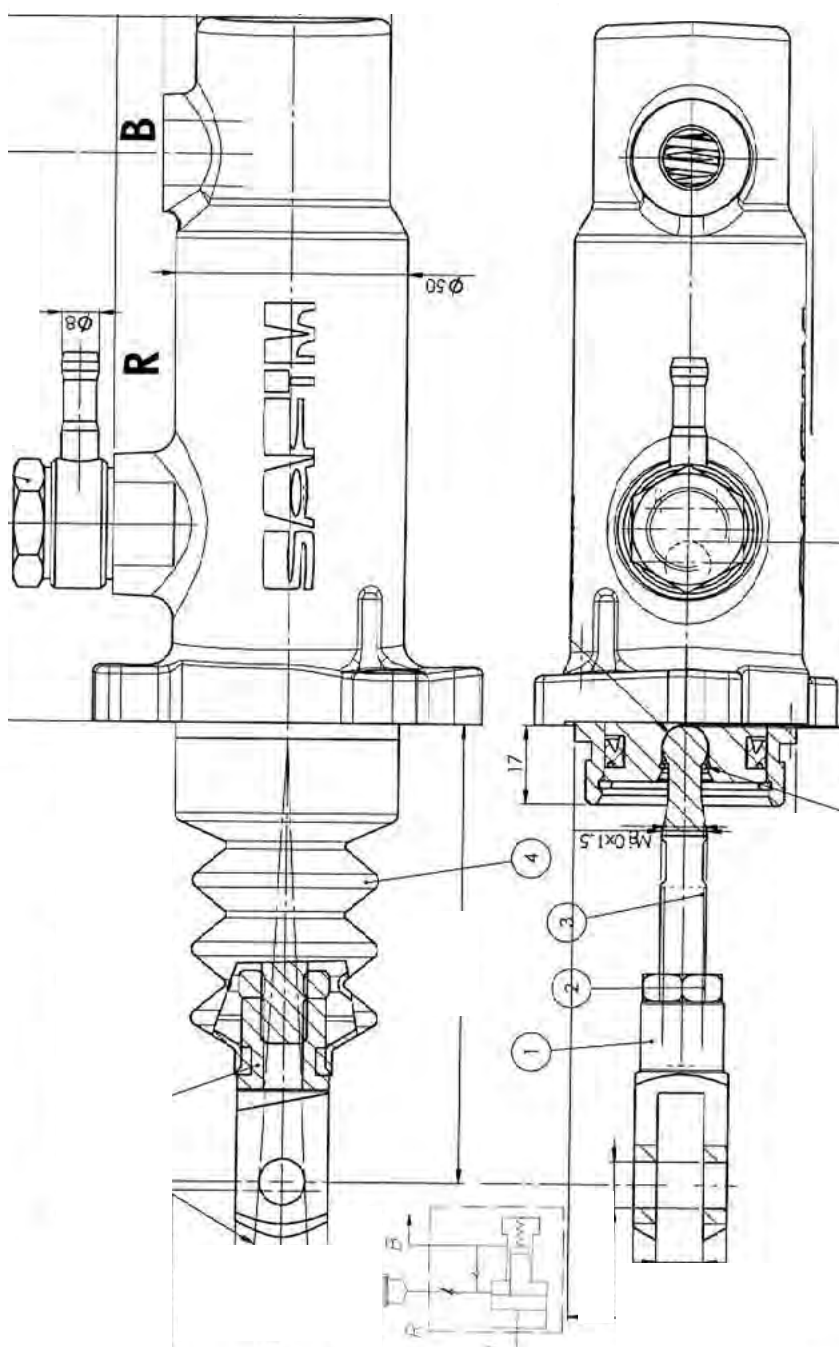
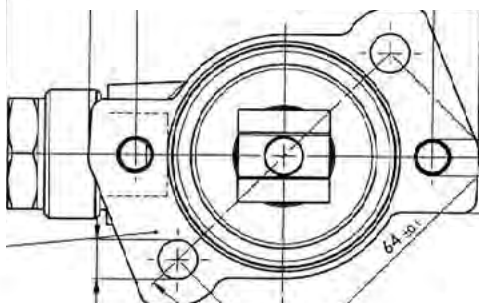
CYLINDERS



TILT CYLINDER
3" X 16" GL 11155
SEAL KIT GL 12300



ITEM	PART NO.	DESCRIPTION	REQD	ITEM	PART NO.	DESCRIPTION	REQD
1	23003	SLOTTED NUT	1	10	21553	POLYPAK (TYPE 'B')	1
2	30300	WEAR RING	1	11	13702	GLAND NUT	1
3	21305	PSP SEAL	1	12	12150	ROD WIPER	1
4	22335	PISTON (STEEL)	1	13		FIBER BEARING	1
5	18214	'O'RING	1	14			
6		JACKET ASSEMBLY	1	15			
7		PISTON ROD	1	16			
8	18334	'O'RING	1	17			
9	39334	BACKUP WASHER	1	18			

**MASTER CYLINDER
GL 11800****SEAL KIT GL SG14758**

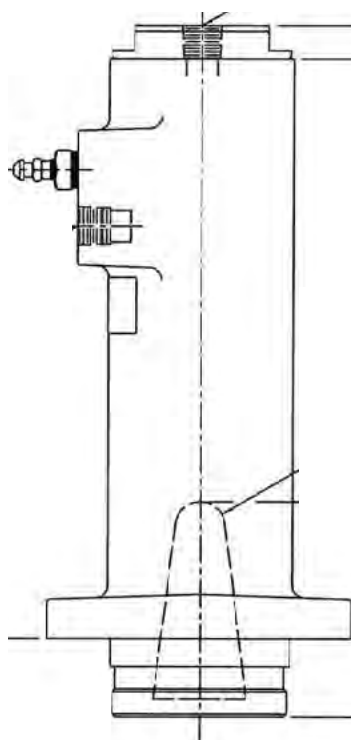
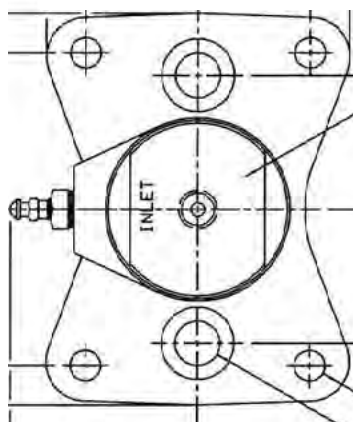
**REMOTE ACTUATOR
GL 11310**

Not Illustrated:

GL 11315 Kit, Boot

GL 11320 Rod, Push

GL 11420 End, Rod

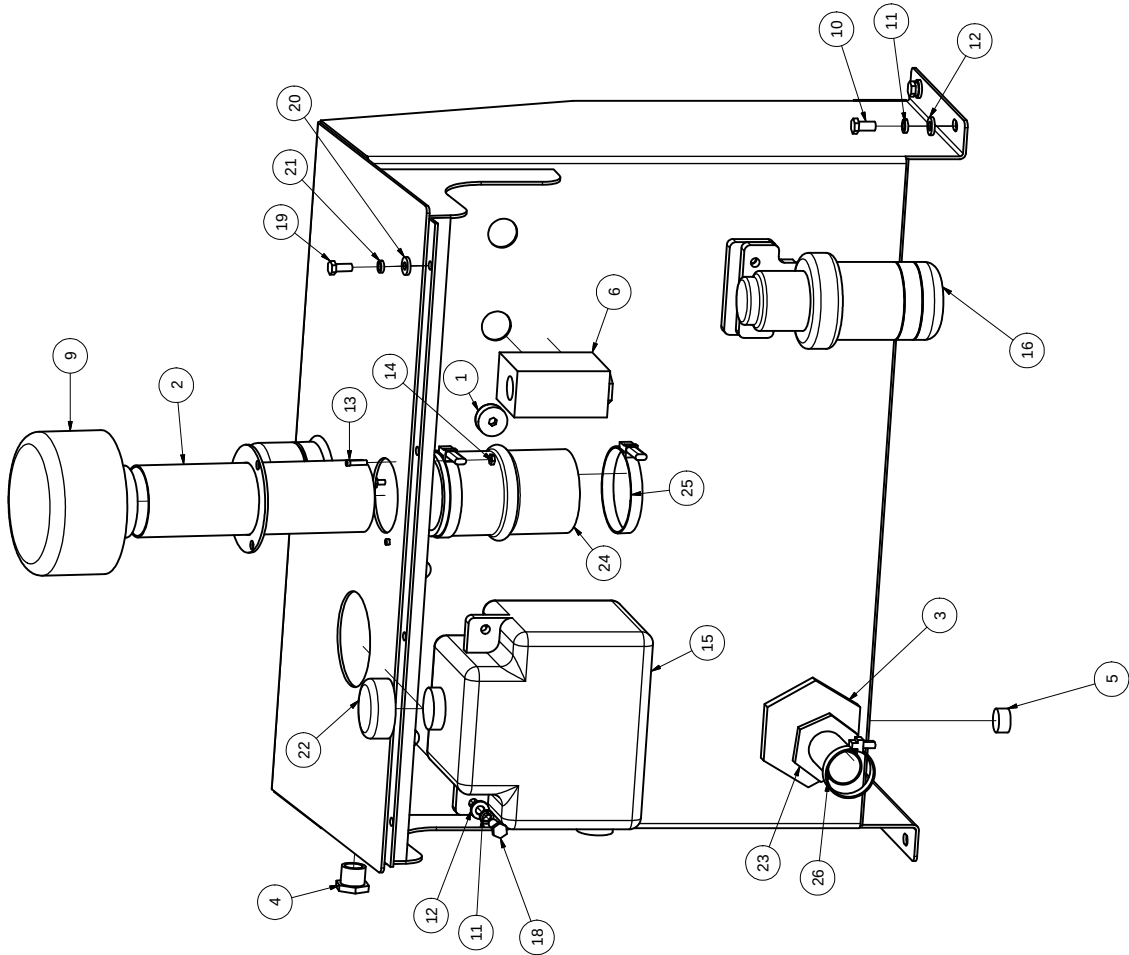


HYDRAULIC OIL TANK 1

Reference: Used on forklifts with serial numbers GL 2000 through GL 2023.

ZONE	REV	REVISION HISTORY			APPROVED
		DESCRIPTION USED	DATE		
1	1	GL2000-GL2023	9/11/2008	matt	

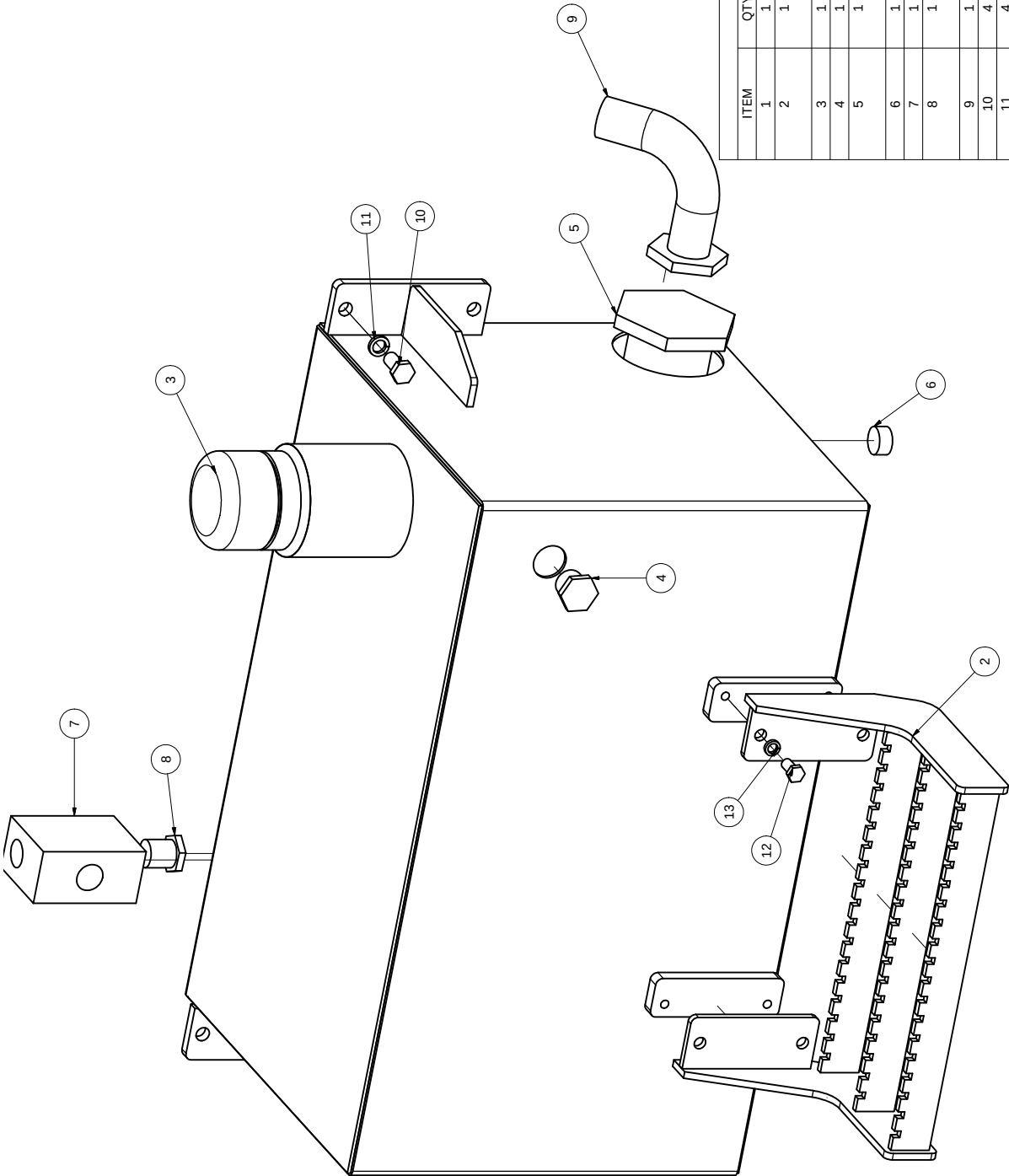
Parts List				DESCRIPTION	
ITEM	QTY	PART NUMBER			
1	1	GL 12520		OIL TANK ASSEMBLY	
2	1	GL9573		STAINLESS INTAKE	
3	1	GSS10516		FILTER SUCTION 3" X 1	
4	1	G1071		1/2" NPT	
5	1	G2010		SIGHT GLASS 3/4" NPT	
6	1	GL11111		1/2" PIPE PLUG	
7	1	X1060		OIL COOLER BYPASS VALVE	CHECK VALVE
8	1	G 1065		3/4" BLK PIPE PLUG	
9	1	GL11205		FILLER CAP ASSEMBLY	
10	2	NI295		AIR PRECLEANER EX -30	
11	3	NI280		HHCS 3/8"-16 X 3/4"	
12	3	NI275		LOCKWASHER 3/8"	
13	3	N9775		FLATWASHER 3/8"	
14	3	N9415		MACHINE SCREW 10-24 X 3/4" SS	
15	1	GL128-15313		NUT 10-24	
16	1	GL320-07140		TANK EXPANSION	
17	1	GL11675		FILTER ASSY, FUEL	
18	1	NI300		FILTER, FUEL/WATER TRAP	
19	1	NI165		HHCS 3/8"-16 X 1"	
20	1	NI145		HHCS 5/16"-18 X 3/4"	
21	1	NI150		FLATWASHER 5/16"	
22	1	GL477-00223		LOCKWASHER 5/16"	
23	1	GSS11055		CAP EXPANSION TANK	
				FITTING 24 HOSEBARB -24	
				NPT	
24	1	OP105608		ADAPTOR, 3-3 STRAIGHT	
				HUMP	
25	2	O1415		CLAMP, T BOLT TBC350	
26	2	O1417		CLAMP, T BOLT TBC200	
27	4	GH11857		LATCH (NOT ILLUSTRATED)	



HYDRAULIC OIL TANK 2

Reference: Used on forklifts with serial numbers GL 2024 through current.

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED
1	1	USED GL2024-CURRENT	9/8/2008	matt



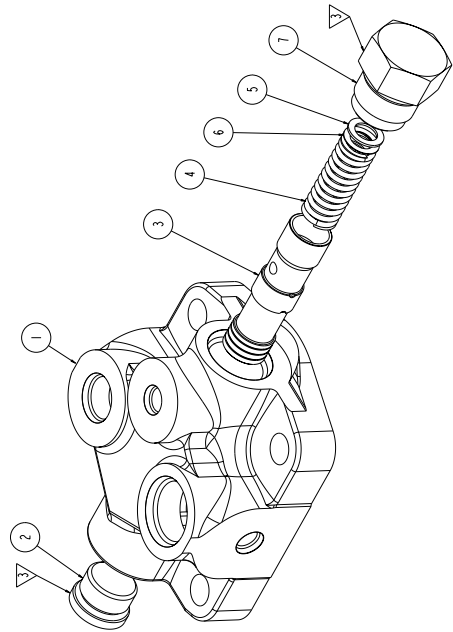
Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL 12525	OIL TANK ASSEMBLY
2	1	GL95750	STEP ASSEMBLY FUEL TANK
3	1	G 1065	SIDE
4	1	G1071	FILLER CAP ASSEMBLY
5	1	GL11865	SIGHT GLASS 3/4" NPT
6	1	G2010	FILTER SUCTION 3" MALE
7	1	GL11111	ORING X 1 1/2"
8	1	CV1-16P	1/2" PIPE PLUG
9	1	GL11885	OIL COOLER BYPASS CHECK VALVE
10	4	N1545	BYPASS
11	4	N1525	SUCTION 90 SWEEP FITTING 1 1/2 HB X 1 1/2 MALE
12	4	N1295	HHCS 1/2"-13 X 1"
13	4	N1280	LOCKWASHER 1/2"
14	1	O1185	HHCS 3/8"-16 X 3/4"
			LOCKWASHER 3/8"
			ANTI SLIP TREAD SOLD PER-FT

PUMP

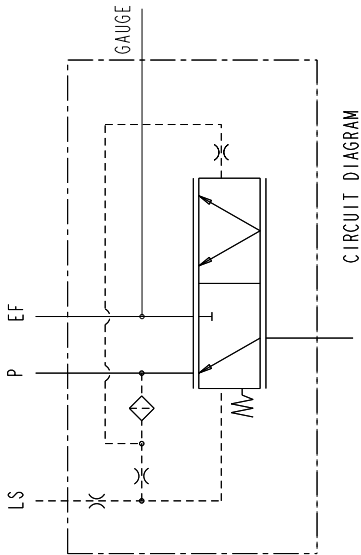
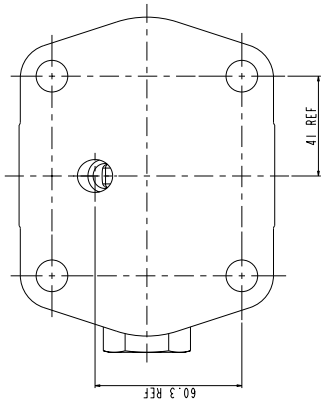
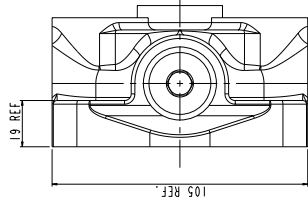
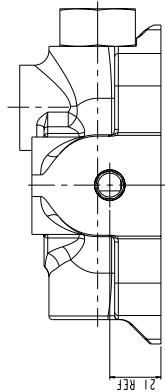
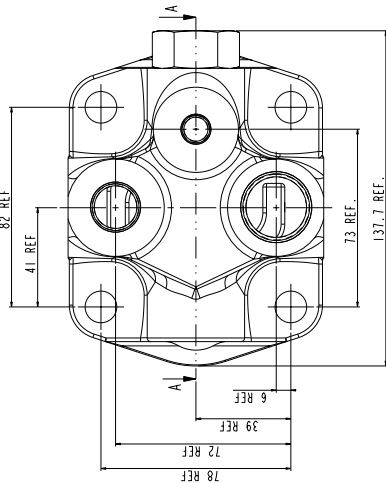
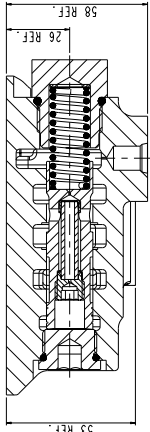
HYDRAULIC PUMP CONTROL COVER

GAUGE PORT (SIDE)	7/16-20UNF
L/S PORT (TOP)	7/16-20UNF
P PORT (TOP)	3/4-16UNF
EF PORT (TOP)	1-1/16-12UN
PORTING CHART	

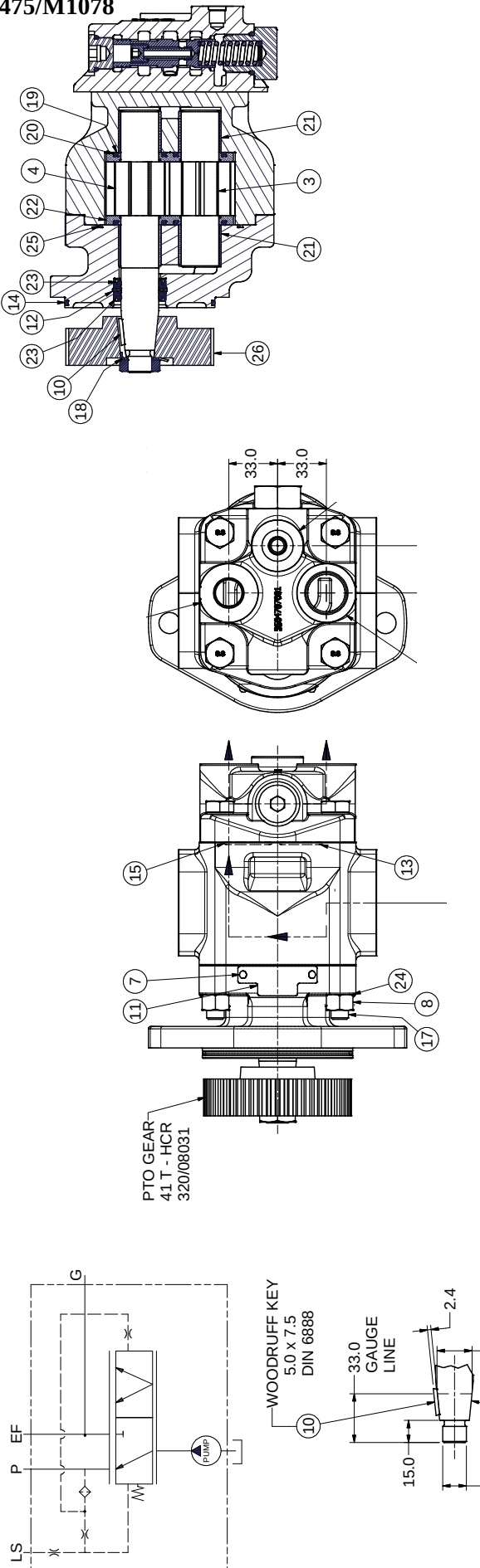
7	3501803042	1	SPRING SEAT ASSY
6	9222-553-00T	AS REQ'D	SHIM DIN 988 10x16x0.3
5	9222-552-00W	AS REQ'D	SHIM DIN 988 10x16x1
4	3500560160	1	SPRING-COMPRESSION SPRING
3	3501803014	1	SPOOL SUB ASSY (0.7 DIA ORIFICE)
2	3912281014	1	PLUG- 7/8" UNF HEX-SKT
1	3504707313	1	CVP100-ABF-J1J3BX2-GAUGE
ITEM	PART NO	QTY	DESCRIPTION



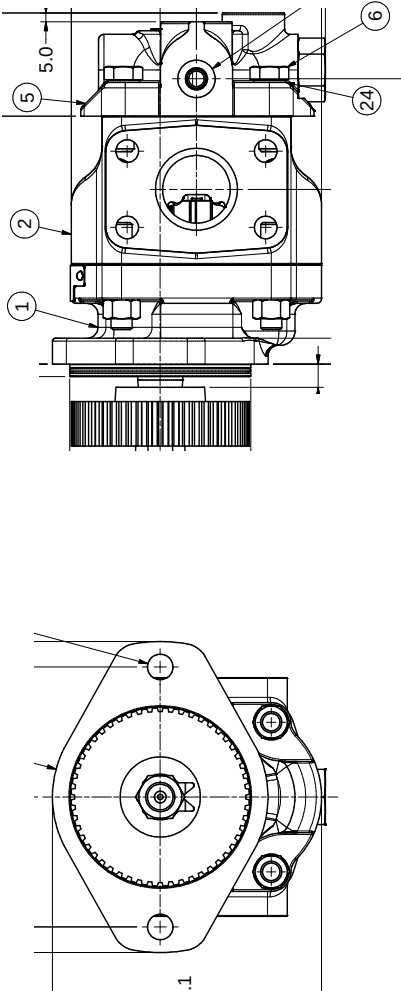
SECTION A-A



HYDRAULIC PUMP
GL475/M1078



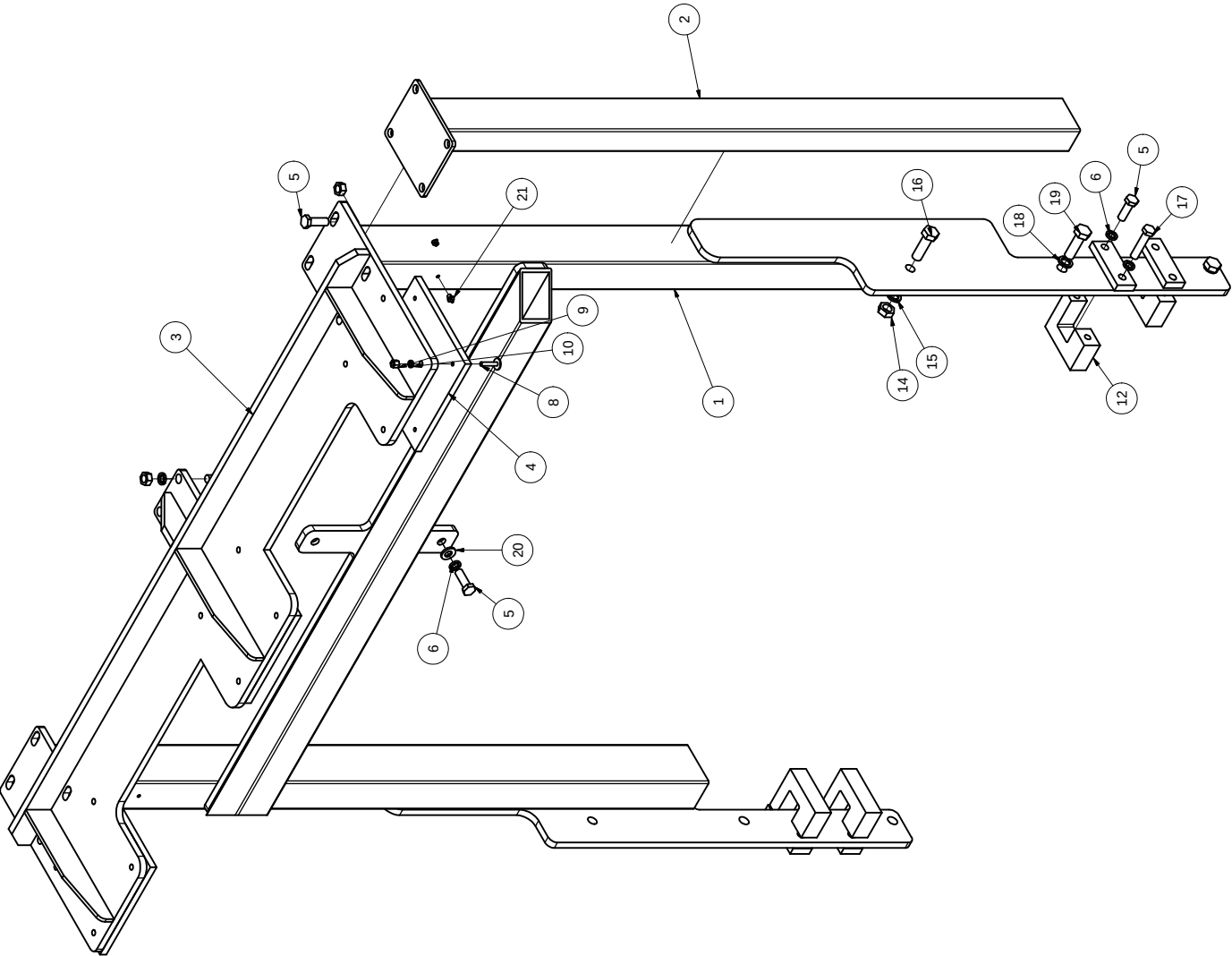
ITEM	PART NUMBER	QTY	DESCRIPTION
26	320-08031	1	GEAR
25	9312-641-004	1	SECTION SEAL
24	9222-575-009	8	WASHER
23	8682-119-00W	2	SEAL, LIP
22	8682-058-00M	2	BALANCE PLATE
21	8682-018-00C	4	BUSHING
20	8682-016-00L	2	SEAL, ENERG.
19	8682-015-00Q	2	SEAL, ELEM.
18	8682-010-00F	1	TABWASHER
17	8682-007-00M	4	STUD
15	391 2882 503	1	SEAL, O-R
14	391 2882 499	1	SEAL, O-R
13	391 2881 444	1	O-RING, -022
12	391 2686 008	1	RING, SNAP
11	391 2183 227	1	NAME PLATE
10	391 1781 095	1	KEY, .75DIA. WOODRUFF
9	391 1451 243	1	NUT, HEX
8	391 1451 149	4	NUT, HEX
7	391 1432 004	2	SCREW, DRIVE
6	391 1401 779	4	CAPSCREW (40mm)
5	350 9713 080	1	CVP100-ABF-J1J3XB2
4	702 1833 802	1	DRIVE GEAR-SHAFT
3	702 2733 000	1	GEAR, DRIVEN
2	702 7933 010	1	BODY
1	77020-4118583	1	FLANGE



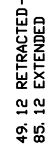
MATERIAL HANDLING SYSTEM

BIN CLAMP

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	GL96015	BIN CLAMP SLIDE TUBE
2	2	GL96005	CYL. MT ASSEMBLY
3	1	GL96013	SLIDE TUBE ASSEMBLY
4	3	GL96027	TOP CLAMP ASSEMBLY
5	14	N1550	RUBBER PADS 8"-1 1/4"-2PLY RUBBER
6	22	N1525	HHCS 1/2"-13 X 1 1/2"
7	12	N1515	LOCKWASHER 1/2"
8	12	N8040	HEX NUT 1/2"X13
9	12	N1010	ELEVATOR BOLT 1/4"-20 X 1 1/4"
10	12	N1020	HEX NUT 1/4"-20
11	4	N1552	LOCKWASHER 1/4"
12	4	GL95025	HHCS 1/2"-13 X 1 3/4"
13	4	GL96026	1 1/4" X 4"
14	4	GL96026	CLAMP SUPPORT
15	2	N1625	CLAMP 1/2" X 1 1/2"
16	2	N1635	HEX NUT 5/8"-11
17	2	N1665	LOCKWASHER 5/8"
18	4	N1557	HHCS 5/8"-11.2 "
19	4	N3460	HHCS 1/2"-132 1/4"
20	4	N3479	16MM LOCKWASHER
21	4	N1520	HHCS 16MM -2.0 X 50MM
	2	D2004	GR 10.9
	4		FLATWASHER 1/2"
			1/4"-28 GREASE FITTING STRAIGHT



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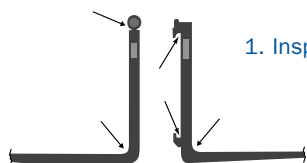


ITEM	PART NO.	DESCRIPTION	REF'D	ITEM	PART NO.	DESCRIPTION	REV'D
1	23075	LID/NUT	1	10	39224	BACKUP WASHER	1
2	30025	WEAR RING	1	11	21513	PILYPAK (TYPE "B")	1
3	21203	PSF SEAL	1	12	1259003	GLAND NUT	1
4	22215	PISTON (STEEL)	1	13	12150	ROD VOPER	1
5	18116	"GRING"	1	14			
6		STOP TUBE (6.0M")	1	15			
7		JACKET ASSEMBLY	1	16			
8		PISTON ROD	1	17			
9		CRANK	1	18			
10	30224						

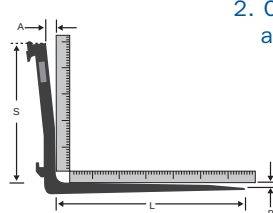
FORKS**FORK INSPECTION LOG**

Fork Inspection Log

Forks in use shall be inspected at intervals of not more than 12 months (for single shift operations) or whenever any defect or permanent deformation is detected. Certain applications will require more frequent inspections, and possibly non-destructive testing methods to check for cracks. *Refer to back of page.*

**1. Inspect for surface cracks.**

Pay special attention to the heel and welds attaching all mounting components to the fork blank. Forks with surface cracks shall not be returned to service.

**2. Check for straightness of blade and shank.**

The fork should be withdrawn from service if the deviation from straightness exceeds allowable "A" and "B" values.

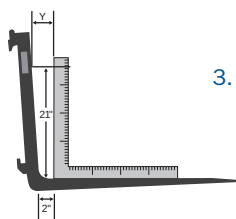
Allowable "A" = $(.005) \times (S)$

Allowable "B" = $(.005) \times (L)$

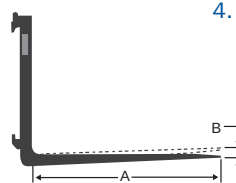
Example: 48" or 1,219 mm long blade

Allowable B = $(.005) \times (48") = .24"$

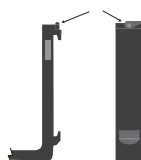
or B = $(.005) \times (1,219) \text{ mm} = 6.10 \text{ mm}$

**3. Check for excessive fork angle.**

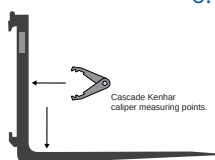
When Y value exceeds $2 \frac{3}{8}"$ (60 mm) or $2 \frac{3}{4}"$ (70 mm) on fully tapered, the fork is rejected.

**4. Check tip alignment.**

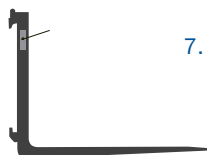
When "A" is less than or equal to 42" (1,067 mm), then the maximum recommended difference in fork tip elevation is B = .25" (6.35 mm). If "A" is greater than 42" (1,067 mm), then the maximum recommended difference in fork tip elevation is B = .375" (9.53 mm).

**5. Check for positioning lock damage.**

Check the positioning lock and other fork retention devices to make sure they are in place and working.

**6. Check for wear.**

Set the top jaws of caliper by measuring the thickness of the shank. Position the bottom jaws over the flanks of the fork arm blade. If inside jaws of caliper hit fork, it is OK. If inside jaws of caliper pass over the fork arm, it must be taken out of service. *Refer to clipboard.*

**7. Check fork marking.**

If the fork identification marking is not clearly legible, it shall be renewed.

Lift Truck Serial # _____

Inspection Date Inspected By Observations/Comments

1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____

USER FORK WEAR STANDARDS

Reprinted from ASME/ANSI B56. 1-2000

6.2.8 Inspection and Repair of Forks in Service on Fork Lift Trucks

(a) Forks in use shall be inspected at intervals of not more than 12 months (for single shift operations) or whenever any defect or permanent deformation is detected. Several applications will require more frequent inspection.

(b) Individual and Load Rating of Forks. When forks are used in pairs (the normal arrangement), the rated capacity of each fork shall be at least half of the manufacturer's rated capacity of the truck, and at the rated load center distance shown on the lift truck nameplate.

6.2.8.1 Inspection. Fork inspections shall be carried out carefully by trained personnel with the aim of detecting any damage, failure, deformation, etc., which might impair safe use. Any fork which shows such a defect shall be withdrawn from service, and shall not be returned to service unless it has been satisfactorily repaired in accordance with para 6.2.8.2.

(a) **Surface Cracks.** The fork shall be thoroughly examined visually for cracks and if considered necessary, subjected to a non-destructive crack detection process, special attention being paid to the heel and welds attaching all mounting components to the fork blank. This inspection for cracks must also include any special mounting mechanisms of the fork blank to the fork carrier including bolt type mountings and forged upper mounting arrangements for hook or shaft type carriages. The forks shall not be returned to service if surface cracks are detected.

(b) **Straightness of Blade and Shank.** The straightness of the upper face of the blade and the front face of the shank shall be checked. If the deviation from straightness exceeds 0.5% of the length of the blade and/or the height of the shank, respectively, the fork shall not be returned to service until it has been repaired in accordance with para 6.2.8.2.

(c) **Fork Angle (Upper Face of Blade to Load of the Shank).** Any fork that has a deviation of greater than 3 deg. from the original specification shall not be returned to service. The rejected fork shall be reset and tested in accordance with para 6.2.8.2.

(d) **Difference in Height of Fork Tips.** The difference in height of one set of forks when mounted on the fork

carrier shall be checked. If the difference in tip heights exceeds 3% of the length of the blade, the set of forks shall not be returned to service until repaired in accordance with para 6.2.8.2.

(e) **Positioning Lock (Where Originally Provided).** It shall be confirmed that the positioning lock is in good repair and correct working order. If any fault is found, the fork shall be withdrawn from service until satisfactory repair has been effected.

(f) Wear

(1) **Fork Blade and Shank.** The fork blade and shank shall be thoroughly checked for wear, special attention being paid to the vicinity of the heel. If the thickness is reduced to 90% of the original thickness, the fork shall not be returned to service.

(2) **Fork Hooks (Where Originally Provided).** The support face of the top hook and the retaining faces of both hooks shall be checked for wear, crushing, and other local deformations. If these are apparent to such an extent that the clearance between the fork and the fork carrier becomes excessive, the fork shall not be returned to service until repaired in accordance with para 6.2.8.2.

(g) **Legibility of Marking (When Originally Provided).** If the fork marking in accordance with para 7.25.2 is not clearly legible, it shall be renewed. Marking shall be renewed per instructions from original supplier.

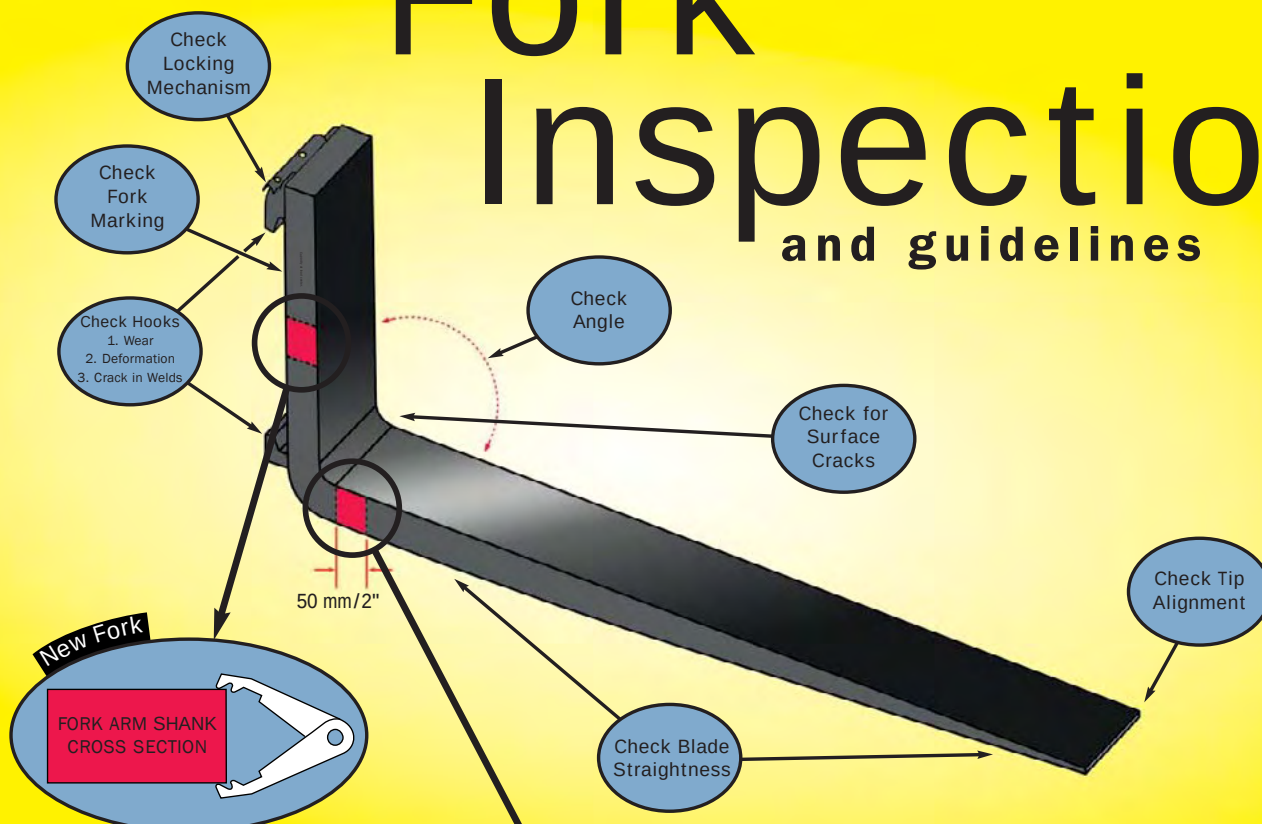
6.2.8.2. Repair and Testing

(a) **Repair.** Only the manufacturer of the fork or an expert of equal competence shall decide if a fork may be repaired for continual use, and the repairs shall only be carried out by such parties. It is not recommended that surface cracks or wear be repaired by welding. When repairs necessitating resetting are required, the fork shall subsequently be subjected to an appropriate heat treatment, as necessary.

FORK INSPECTION GUIDELINES

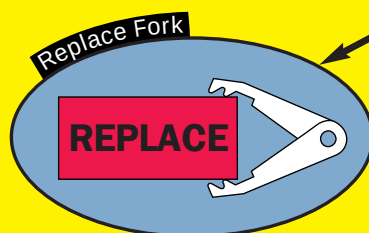
Fork Inspection

and guidelines



Step 1. Set Calipers

Checking shank thickness: Set the top jaws by measuring the thickness of the shank. Ensure that the caliper is held square across the shank for an accurate reading. The caliper is now set to measure the fork arm blade.



Step 3. Replace if Necessary

If inside jaws of caliper pass over the fork arm it must be taken out of service. This represents 10% wear and 20% reduction in capacity. ASME B56.1 recommended practices advise that forks be withdrawn from service when the thickness of the blade has worn by 10%.



Step 2. Check Blade Thickness

Checking blade thickness: Position the bottom jaws of the caliper over the flanks of the fork arm blade. If inside jaws of caliper hit fork it has less than 10% wear and can remain in service.

Note: Standard Cascade Kenhar calipers can be used on forks up to and including 65 mm, (2.56") thick. They are NOT TO BE USED ON FULL OR LUMBER TAPERED FORKS where the upright thickness is greater than that of the blade. In these cases 10% reduction must be obtained by measurement. You will need to know the original fork blade thickness.

Fork Use Guidelines:

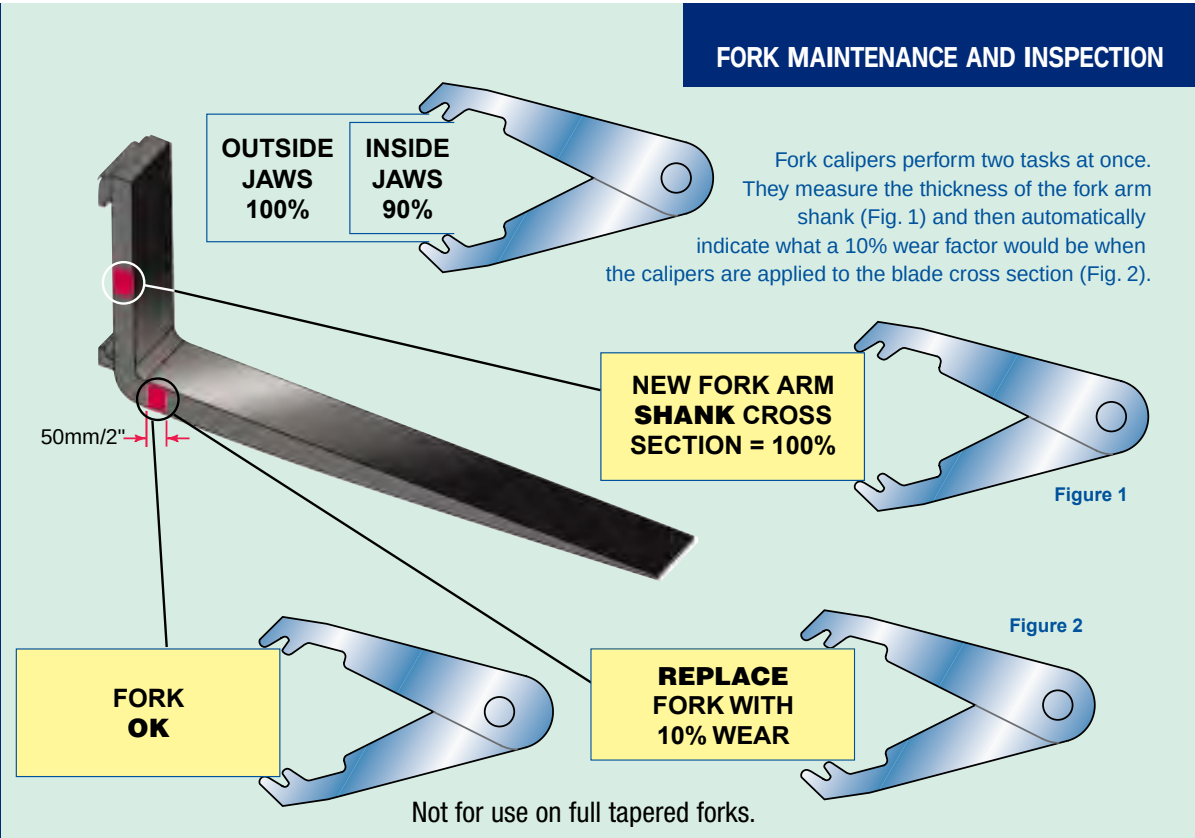
Use your forks correctly:

1. Inspect forks regularly and use Cascade Kenhar inspection log.
2. Make sure capacity meets or exceeds truck rating and load weight.
3. Obtain written approval from fork manufacturer prior to making fork modifications.
4. Determine fork wear cycle and replacement schedule for your operation. Use of larger forks in demanding applications will extend fork life.
5. All locating pins must be in place at all times. Forks must be properly seated on the carriage and the pins fully located in the slot before use.

What not to do:

1. Do not overload beyond the rated capacity.
2. Do not change fork from one lift truck to another without knowing capacities of each.
3. Do not use a fork in an application for which it is not designed.
4. Do not add a fork extension longer than 150% of the supporting fork's length.
5. Do not try to repair or modify forks in the field, especially by welding. Improper welding destroys heat treat properties and makes the forks brittle.
6. Do not carry full or partial loads on one fork.
7. Do not apply sideways pressure to forks, commonly called "side loading", as they are designed for vertical loading only.

FORK MAINTENANCE AND INSPECTION



Lift truck forks: maintenance and inspection.

A 10% reduction in blade thickness results in a 20% reduction of capacity.

Lift truck forks are often mistreated and forgotten. As insubstantial as they seem, neglecting forks could make them dangerous. There is barely a word about forks mentioned in most operator training manuals or instructed courses. Lift truck technicians may ignore them completely. Yet, forks carry larger loads than almost any lifting device but there are no mandatory requirements for maintenance or inspection.

You can find thousands of extra parts for lift trucks in some fleet repair shops, but you'll seldom see spare forks. Even when all the trucks on the fleet are the same, fleet maintenance managers rarely order spare forks. Forks last a long time if treated properly, but they can deceive by looking as good from most viewing angles when they are worn as when they are new.

It's true that most forks are customized to the truck by model and capacity: they are big and heavy and thought of as indestructible. But forks can be abused or ruined in the course of daily work.

Here are some examples of ways that forks can be damaged:

- Forks can be overloaded either by picking up a load too far out on the forks, or simply by picking up loads heavier than the truck rating.
- Maintenance shops may bend forks back into shape, weld on them, or drill holes through them. Lift truck users can add attachments to the truck that stress the forks. Drum clamps and portable booms can be supported on the

forks—but what is contained in the drum or on the boom hook makes the safety difference.

- Forks are often used to open rail car doors and break loads out or away from other loads. They are also used to pick up capacity loads not seated against the fork shank and to pick up off-balanced loads far from the side of the truck. The fork tips are sometimes inserted under other fork trucks to lift them during maintenance operations.
- Lift trucks may collide with building columns and walls, and though the forks show no discernible bend, they may be damaged beyond safety.
- Any time excessive heat is applied to any part of a fork—during repair, for instance—hidden damage may occur.

The fork itself is a concern but so are the hooks that secure them to the lift carriage.

DESIGNED TO TAKE A BEATING

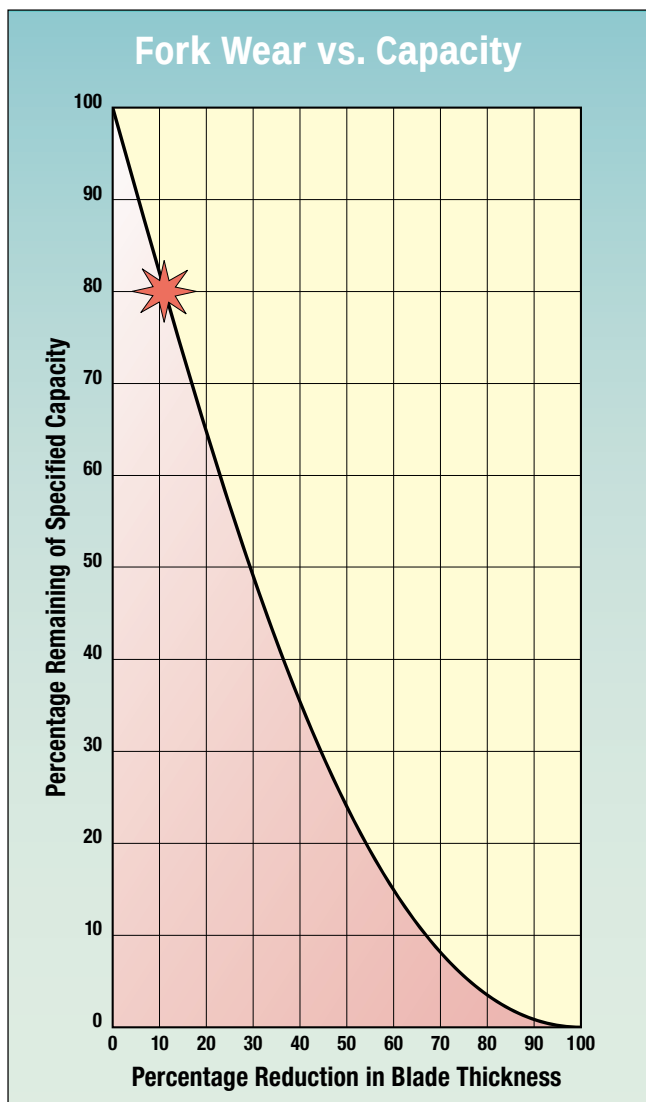
Forks for counterbalanced and straddle lift trucks are not just bent bars of steel. The manufacturing process is careful and precise with many checks and inspections critical to their safety. Some factors essential to fork manufacture include the steel, the bend and thickness of the heel, the welding of the hooks that hold them on the carriage, and the heat treatment of the finished product.

Fork Maintenance and Inspection Cont.

FORKS ARE A WEARING PART

Finished forks are usually painted red, yellow or black when the truck is new. The paint is quickly scrapped off once the truck is put into service. The top paint is abraded by the pallet or load and the bottom is worn mostly by contact with the floor.

Lift truck operators are taught to keep their forks low and parallel with the travel surface when traveling empty and tilted back when carrying a load. But some operators go to extremes and travel with the heel of the fork riding on the floor. This practice wears the heel or the bottom surface of the fork and reduces the capacity of the fork.



This chart shows how fork wear reduces truck capacity. ANSI standards require that each fork be rated at least half the capacity of the truck at the rated load center distance as shown on the truck nameplate.

Once in service, the bottom of forks may wear badly. This wear may not be noticed, but the consequences are. There are ASME/ANSI specifications for User Fork Wear Standards. They are part of the B56 standards by which lift trucks are manufactured and tested. Few operators or fleet managers know of the standards or understand that forks must be inspected.

While the Industrial Truck Association (ITA) recommends that forks be withdrawn from service when fork blade thickness has been reduced by 10%, few users understand that a 10% reduction in blade thickness results in a capacity reduction of 20%. This means that the safety factor for a pair of forks has also been reduced by 20%.

Measuring fork wear is not intuitive. You should make it a part of maintenance or inspection routines.

HERE'S HOW FORKS ARE INSPECTED

Forks should be inspected at least once a year (single-shift operation, and more frequently in severe applications) for wear and distortion. The best method is to use a fork caliper, which is a type of adjustable go/no-go gauge.

Each fork consists of two sections: the shank, which is the vertical part attached to the carriage, and the blade, which is the portion that picks up the load.

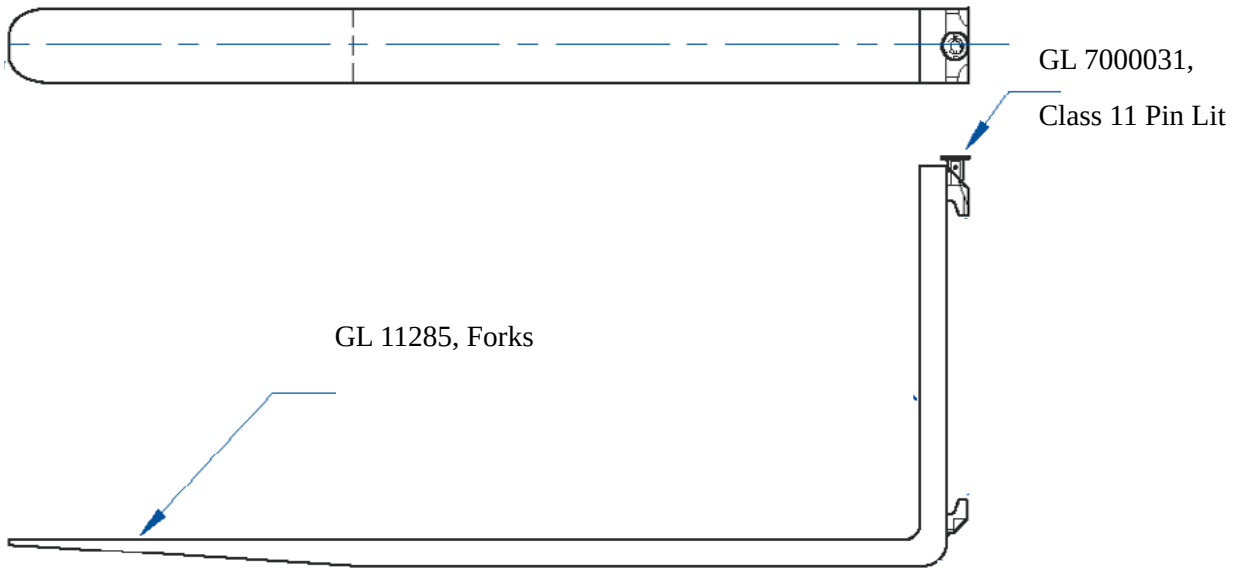
The caliper is first set using the shank of the fork on which there is little or no wear. (See the illustration.) Then that dimension is used to check the shank back near the heel of the blade. The four contact points of the special fork caliper automatically measure the wear on the blade.

Wear is checked by first measuring the thickness of the vertical shank portion of the fork because this part wears little. The interior part of the caliper has two additional points that automatically show a 10% reduction of the shank thickness. These points are slid over the fork blade. If the caliper slides down the blade to the heel, the fork is worn beyond safety and usefulness. It should be replaced. The accompanying chart shows the reduction in capacity as the forks wear.

Reprinted from Material Handling Engineering, March 1995

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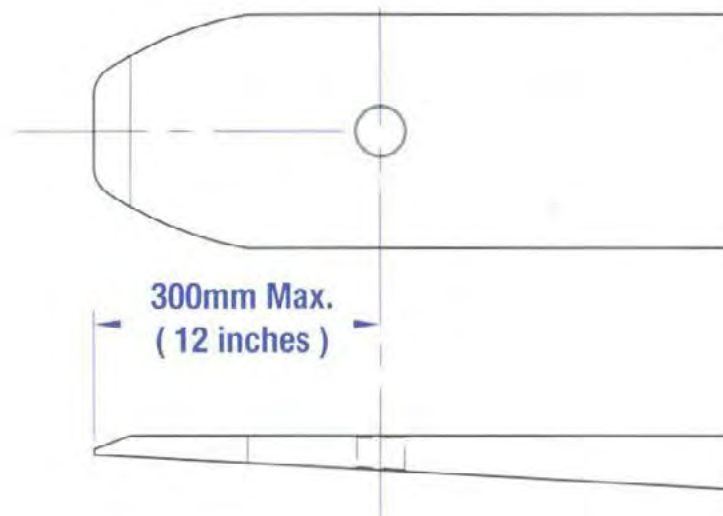
Cleveland, Ohio 44114

FORKS**100X45X1219 GL 11285**

DRILLING HOLES IN FORK BLADES

SUBJECT : HOLES IN FORK BLADES**APPLICATION**

A hole up to and including * $\varnothing 25.4$ mm (1 inch) may be drilled centrally in the tip area as directed in the diagram below. Countersink top and bottom of hole to remove all sharp edges.

**FEATURES**

When a hook or similar lifting devise is suspended from this hole, the new load at this "hole" Load Center must be established.

The hole or any assembly in the hole must not be used for pushing or pulling. A fork is an attachment that is designed for lifting and lowering only. Vehicles such as tractors are better suited to pushing and pulling applications.

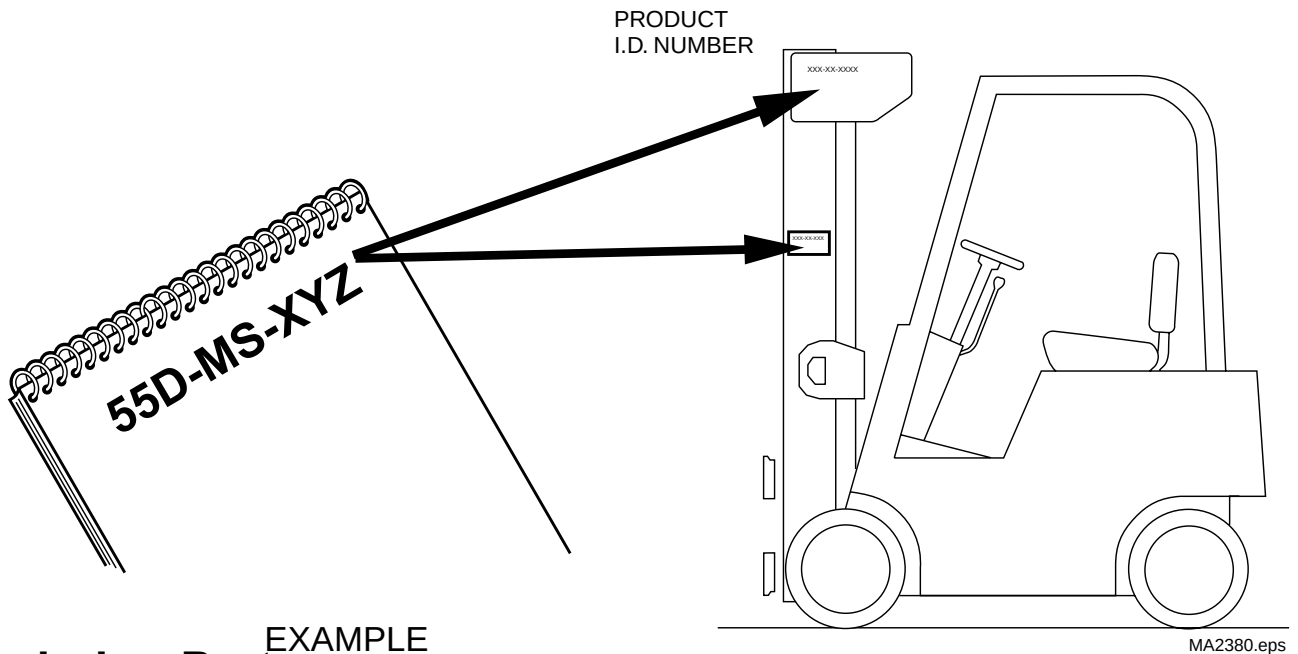
Tip loading or prying with the tip (with a hole) is prohibited.

* Holes larger than $\varnothing 25.4$ will be considered if design conditions permit.

MAST

INTRODUCTION TO MAST SECTION

This part in the manual shows parts breakdown for the mast. Locate the product ID number on the left hand side of the outer upright channel. This number must be used when ordering replacement parts for this product.

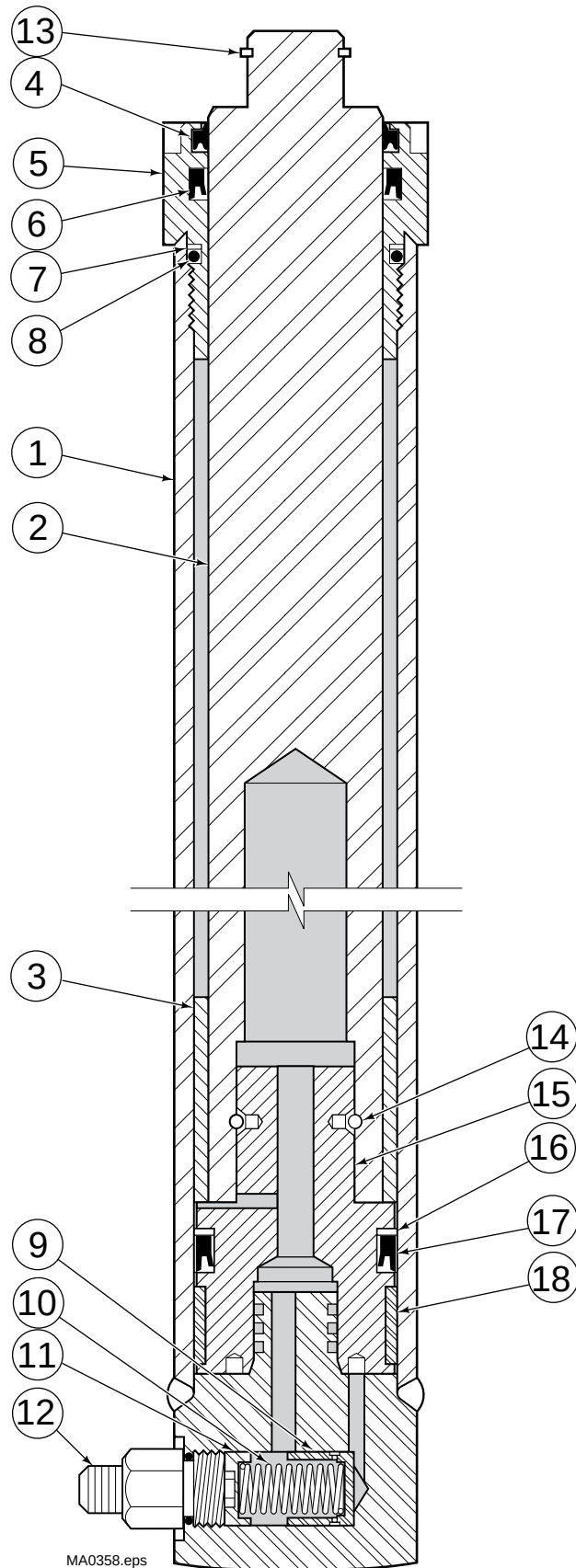


Ordering Parts

Customers -

Parts and service literature is available through authorized lift truck dealers. To place an order, contact **GVF/Gillison's Variety Fabrication at 231-882-5921.**

2600 PSI MAIN LIFT CYLINDERS DIAGRAM



Cylinder drawing is for reference only, specific cylinder may look different.

2600 PSI MAIN LIFT CYLINDERS CHART

Standard 12' Mast

HPML-1

OCL (in)	HIGH PRESSURE MAINLIFT REF A QTY 2		OCL (in)	HIGH PRESSURE MAINLIFT REF A QTY 2		OCL (in)	HIGH PRESSURE MAINLIFT REF A QTY 2
56	581834		81	580769		107	581309
57	580694		82	580773		109	583040
58	580697		83	580777		110	583041
59	580700		84	580781		111	583042
60	580703		85	580785		112	583043
61	580706		86	580786		113	583044
62	580709		87	580787		114	583045
63	580712		88	580788		116	583046
64	580715		89	580790		117	583047
65	580718		90	580792		118	583048
66	580721		91	580795		119	583049
67	580724		92	580798		120	583050
68	580727		93	580801		121	583051
69	580730		94	580804		123	583052
70	580733		95	580807		124	583053
71	580736		96	580810		125	583054
72	580739		97	580813		126	583055
73	580742		98	580816		127	583056
74	580745		99	580819		128	583057
75	580748		100	580820		130	583058
76	580751		101	580821		131	583059
77	580754		103	581297		132	583060
78	580757		104	581300		133	583061
79	580761		105	581303		134	583062
80	580765		106	581306		135	583063

OCL - Outer Channel Length

HPML-2

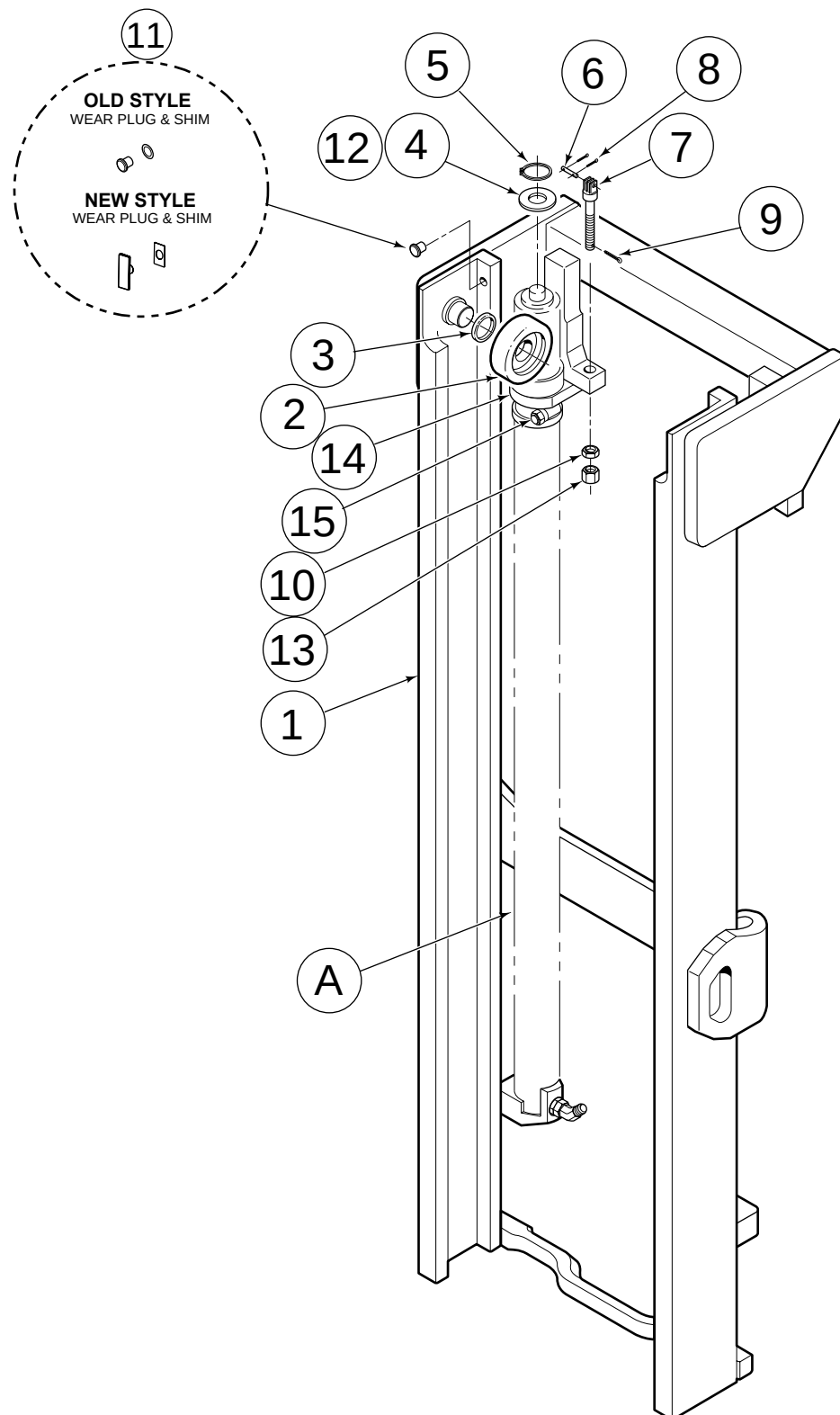
Item	QTY	Part #	Description		Item	QTY	Part #	Description
1	1	N/A	Shell Assembly		10	1	562847	Fuse Spring
2	1	N/A	Plunger		11	1	562848	Spring Guide
3	1	N/A	Spacer		12	1	684036	Fitting
4	1	①	Plunger Wiper		13	1	3129	Snap Ring
5	1	562630	Retainer		14	1	① , ②	Pull Wire
6	1	①	U-Cup Seal		15	1	②	Piston
7	1	①	Backup Ring		16	1	①	Nylon Ring
8	1	①	O-Ring		17	1	① , ②	Piston Seal
9	1	563782	Fuse Piston		18	1	① , ②	Wear Ring

① - Included in Seal Kit P/N 562591.

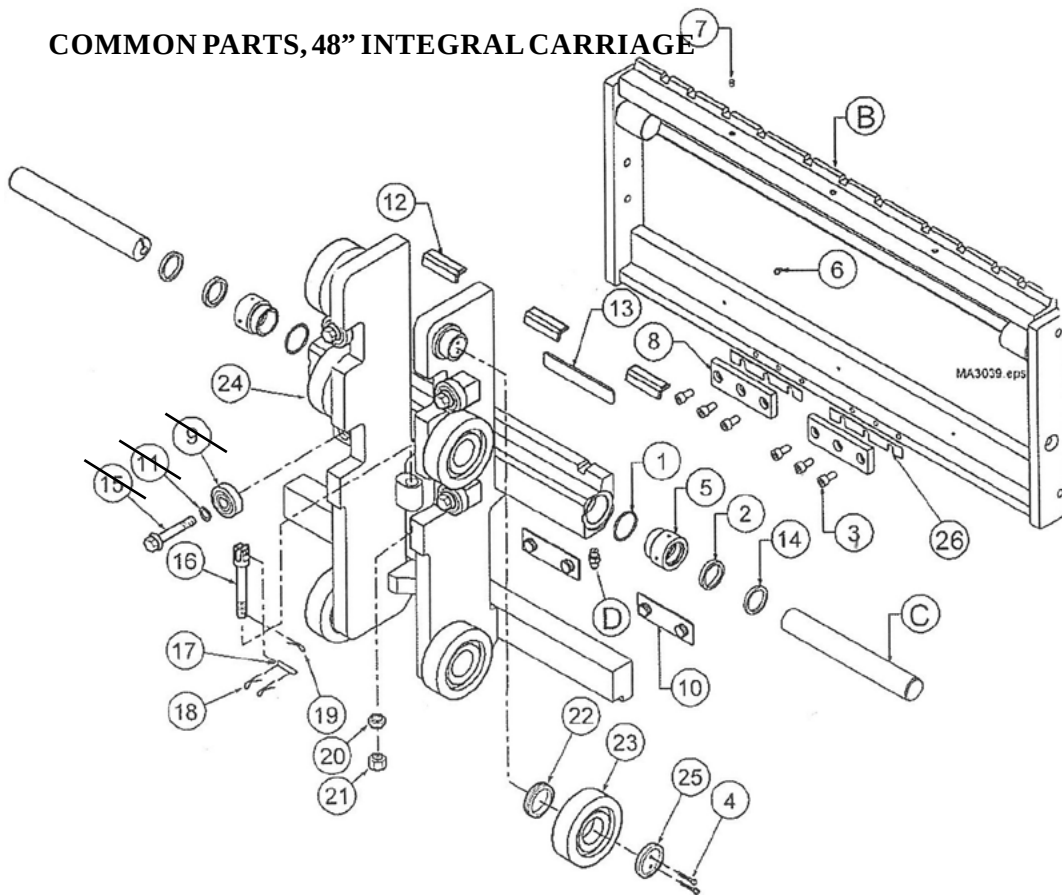
② - Included in Piston Service Kit P/N 561244.

OUTER WELDMENT DIAGRAM

55D-MS-379 Through Present



COMMON PARTS, 48" INTEGRAL CARRIAGE



Note:

(A) - Does not include items:
4, 16, 17, 18, 19, 20, 21, 22, 23,
24 and 25.

48 Inch Integral Carriage for E50-MS Mast

Common Parts Group: 251988, ITA Class: II, # of Rollers: 6, Carriage Width: 1219.2 mm or 48", Carriage Part #: 268089LB

ITEM	QTY	PART#	Description	ITEM	QTY	PART#	Description
(A)	1	268089LB, (4)	Carriage Assembly	12	3	(2)	SS Cylinder Top Wear Pad
(B)	1	268092	Carriage Frame	13	1	(2)	SS Cylinder Face Wear Pad
(C)	2	283509	Sideshift Rod	14	2	(1)	SS Cylinder Rod Wiper
(D)	2	255807	Installation Kit				
1	2	(1)	O-ring	16	2	234034	Chain Anchor
2	2	(1)	Rod Seal	17	2	(3)	Chain Anchor Pin
3	6	N 2970	Capscrew (or 767614)	18	4	6508	Cotter Pin
4	4	680218	Capscrew	19	2	6518	Cotter Pin
5	2	283508	Cylinder Head	20	2	200007	Jam Nut
6	3	7403	Grease Fitting	21	2	200006	Full Nut
7	3	624280	Grease Fitting	22	16	631881	Load Roller Shim
8	2	283510	Lower Carriage Claw	23	4	231359	Load Roller
				24	2	231426	Load Roller
10	3	(2)	Spine Bar Wear Pad	25	2	658378	Retainer
				26	2	254563	Spacer

Notes:

- ①- Included in Seal Kit P/N 293880
- ②- Included in Wear Pad Service Kit P/N 283975
- ③- Items vary per application - See chart CPG 4-2
- ④- Does not include items 4, 16, 17, 18, 19, 20, 21, 22, 23, 24 and 25.

COMMON PARTS

55D-MS-379 Through Present

WLD-2

REF	QTY	PART #	DESCRIPTION	REF	QTY	PART #	DESCRIPTION
A	1	n	Mainlift Cylinders	8	2	201434	Chain Anchor
1	1	n	Outer Upright - See WLD-4	9	2	6518	Cotter Pin
2	4	662145	Load Roller	10	2	200007	Jam Nut
3	*	631881	Load Roller Shim	11	1	212587	Wear Plug Kit
4	*	200524	Cylinder Shim	12	2	200006	Nut
5	2	3129	Snap Ring	13	*	200525	Cylinder Shim
6	2	678667	Chain Pin	14	2	200784	Bumper
7	4	6508	Cotter Pin	15	2	201895	Clamp

* - Quantity will vary.

n - See specific charts for part numbers.

Standard 12' Mast

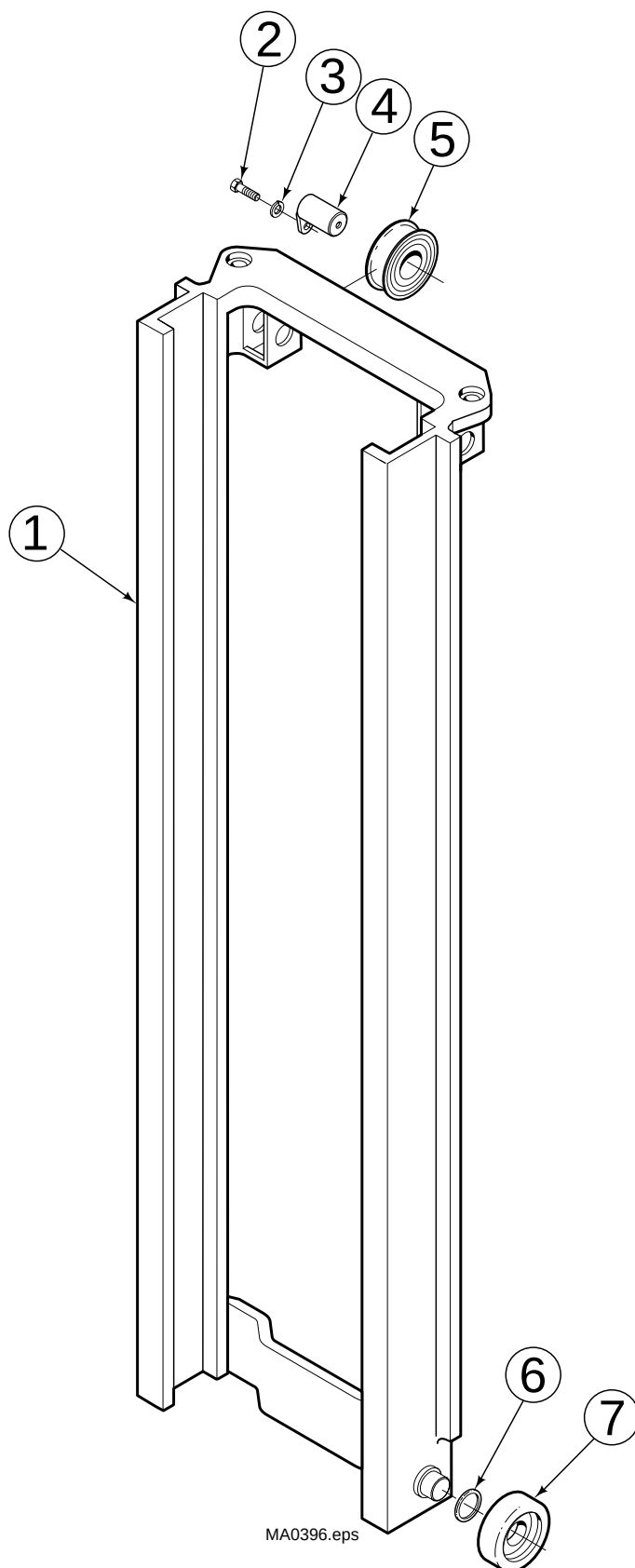
WLD-1

OCL (IN)	OUTER UPRIGHT REF 1 QTY 1	OCL (IN)	OUTER UPRIGHT REF 1 QTY 1	OCL (IN)	OUTER UPRIGHT REF 1 QTY 1
56	202473	81	202498	107	202523
57	202474	82	202499	109	202524
58	202475	83	202500	110	202525
59	202476	84	202501	111	202526
60	202477	85	202502	112	202527
61	202478	86	202503	113	202528
62	202479	87	202504	114	202529
63	202480	88	202505	116	202530
64	202481	89	202506	117	202531
65	202482	90	202507	118	202532
66	202483	91	202508	119	202533
67	202484	92	202509	120	202534
68	202485	93	202510	121	202535
69	202486	94	202511	123	202536
70	202487	95	202512	124	202537
71	202488	96	202513	125	202538
72	202489	97	202514	126	202539
73	202490	98	202515	127	202540
74	202491	99	202516	128	202541
75	202492	100	202517	130	202542
76	202493	101	202518	131	202543
77	202494	103	202519	132	202544
78	202495	104	202520	133	202545
79	202496	105	202521	134	202546
80	202497	106	202522	135	202547

OCL - Outer Channel Length

INNER WELDMENT DIAGRAM

55D-MS-001 Through Present



COMMON PARTS

55D-MS-001 Through Present

WLD-6

REF	QTY	PART #	DESCRIPTION	REF	QTY	PART #	DESCRIPTION
1	1	n	Inner Upright - See WLD-5	5	2	660051	Chain Sheave
2	2	683820	M10x1,5x16 Capscrew	6	*	631881	Load Roller Shim
3	2	683826	M10 Lockwasher	7	2	662145	Load Roller
4	2	683802	Pin Assembly				

* - Quantity will vary.

n - See specific charts for part numbers.

Standard 12' Mast

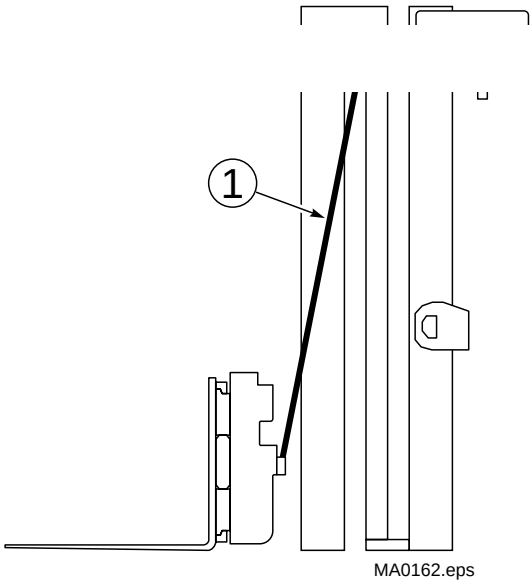
WLD-5

OCL (IN)	INNER UPRIGHT REF 1 QTY 1	OCL (IN)	INNER UPRIGHT REF 1 QTY 1	OCL (IN)	INNER UPRIGHT REF 1 QTY 1
56	684143	81	683696	107	688111
57	683672	82	683697	109	688112
58	683673	83	683698	110	688113
59	683674	84	683699	111	688114
60	683675	85	683700	112	688115
61	683676	86	683701	113	688116
62	683677	87	683702	114	688117
63	683678	88	683703	116	688118
64	683679	89	683704	117	688119
65	683680	90	683705	118	688120
66	683681	91	683706	119	688121
67	683682	92	683707	120	688122
68	683683	93	683708	121	688123
69	683684	94	683709	123	688124
70	683685	95	683710	124	688125
71	683686	96	683711	125	688126
72	683687	97	683712	126	688127
73	683688	98	683713	127	688128
74	683689	99	683714	128	688129
75	683690	100	683715	130	688130
76	683691	101	683716	131	688131
77	683692	103	688107	132	688132
78	683693	104	688108	133	688133
79	683694	105	688109	134	688134
80	683695	106	688110	135	688135

OCL - Outer Channel Length

HOIST CHAINS

55D-MS-379 Through Present



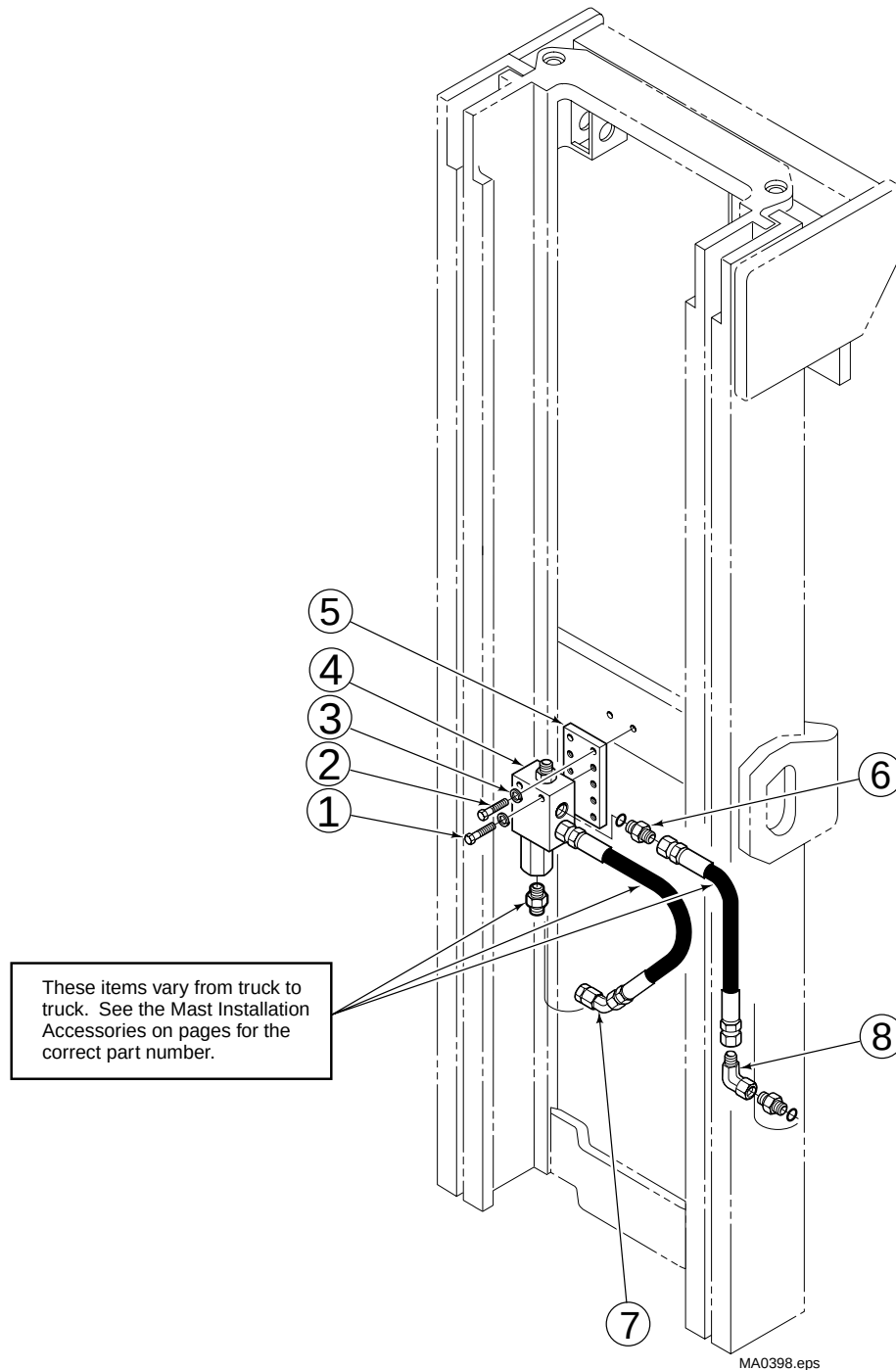
Standard 12' Mast

CHN-2

OC L (IN)	MAIN LIFT CHAIN REF 1 QTY 2		OC L (IN)	MAIN LIFT CHAIN REF 1 QTY 2		OC L (IN)	MAIN LIFT CHAIN REF 1 QTY 2
56	683762		81	683775		107	688139
57	683762		82	683776		109	688140
58	683763		83	683777		110	688141
59	683764		84	683777		111	688141
60	683764		85	678659		112	688142
61	678656		86	683778		113	688143
62	683765		87	683778		114	688143
63	683765		88	683779		116	688145
64	683766		89	683780		117	688145
65	683767		90	683780		118	688146
66	683767		91	683781		119	688147
67	678657		92	683782		120	688147
68	683768		93	683782		121	688176
69	683768		94	683783		123	688148
70	683769		95	683784		124	688149
71	683770		96	683784		125	688150
72	683770		97	683785		126	688150
73	678658		98	683786		127	210411
74	683771		99	683786		128	688152
75	683771		100	683787		130	688153
76	683772	101	683788	131	688154		
77	683773	103	688136	132	688154		
78	683773	104	688137	133	688155		
79	683774	105	688137	134	201412		
80	683775	106	201410	135	201412		

OC L - Outer Channel Length

HYDRAULIC GROUP



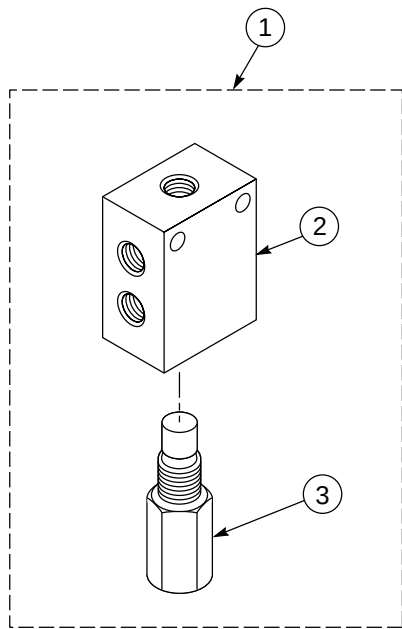
HYD-1

REF	QTY	PART #	DESCRIPTION		REF	QTY	PART #	DESCRIPTION
1	2	683823	M10x50-8.8 Capscrew		5	1	683831	Bar
2	2	684649	M10x25-8.8 Capscrew		6	2	601377	Fitting
3	4	683826	M10 Lockwasher		7	1	605348	Fitting
4	1	n	Lowering Control Valve		8	1	605761	Fitting

* - Quantity will vary.

n - See specific charts for part numbers.

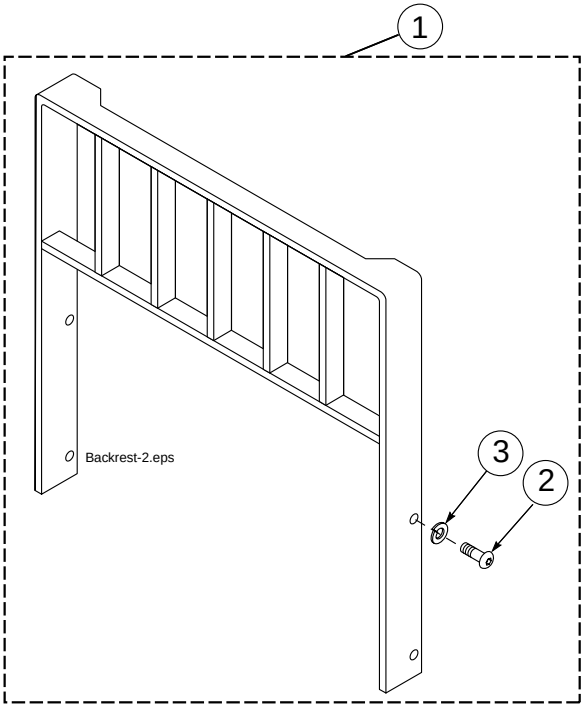
LOWERING CONTROL VALVE



Lowering Control Valve			
REF	QTY	PART#	DESCRIPTION
Valve Assembly			
1		*200630	2000 PSI Lowering Control Valve, 8 GPM
		*684812	2000 PSI Lowering Control Valve, 24 GPM
		*684810	2600 PSI Lowering Control Valve, 17 GPM
Valve Body			
2	1	684152	Valve Body
Valve Cartridge			
3	1	200629	2000 PSI Valve Cartridge, 8 GPM
		684154	2000 PSI Valve Cartridge, 24 GPM
		684210	2600 PSI Valve Cartridge, 17 GPM

* - Valve Assembly consists of 1 - Valve Body and 1 - Valve Cartridge.

LOAD BACKREST



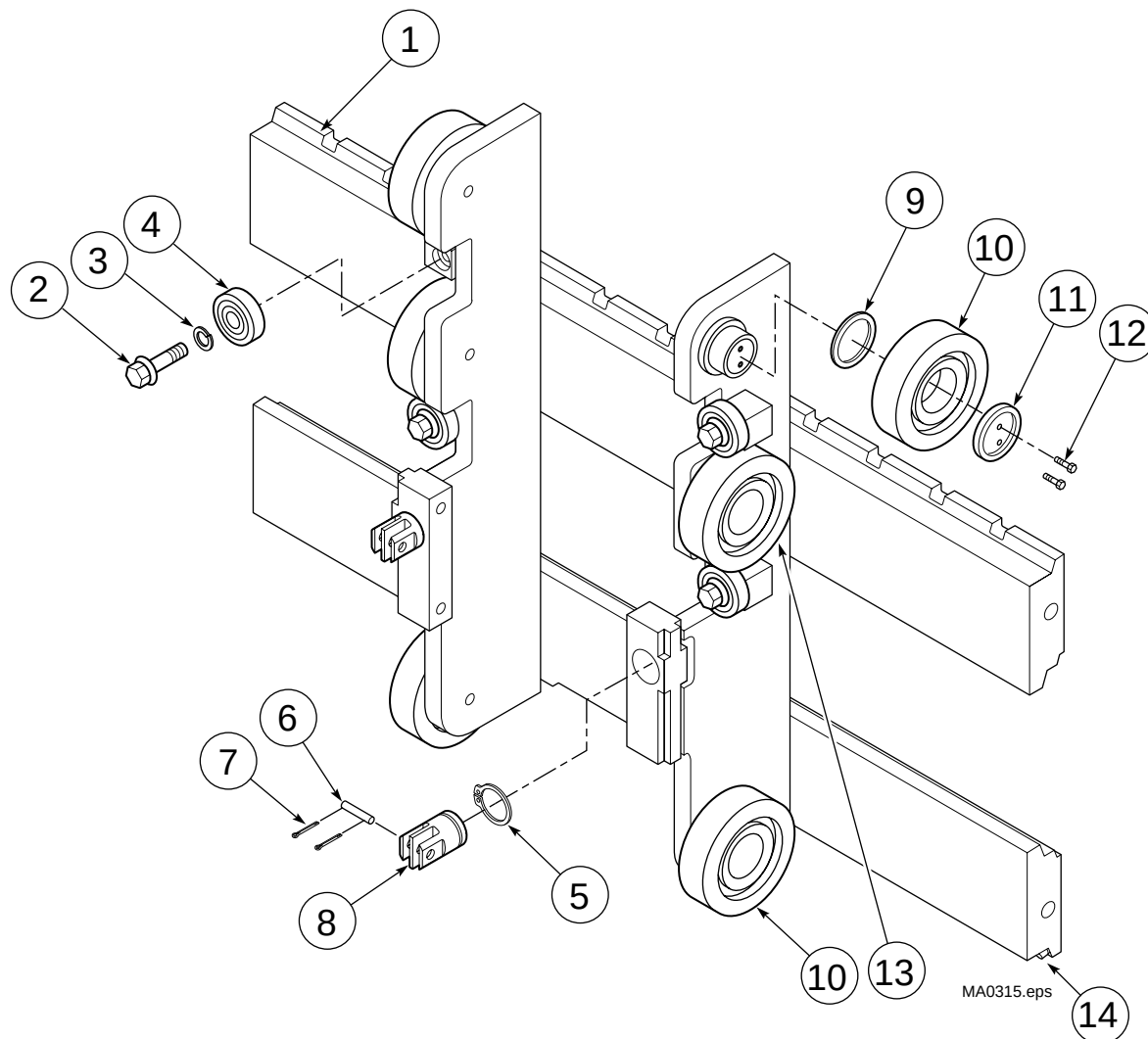
LBR-1 ALL

Class II Load Backrests			
REF	QTY	PART #	DESCRIPTION
1	1	209407	*Backrest, 31" x 36"
		684770	*Backrest, 31" x 48"
		209408	*Backrest, 31" x 60"
		684772	*Backrest, 37" x 36"
		226827	*Backrest, 37" x 40"
		225390	*Backrest, 37" x 42"
		684773	*Backrest, 37" x 48"
		361238	*Backrest, 37" x 52"
		684774	*Backrest, 37" x 60"
		245151	*Backrest, 37" x 65"
		369519	*Backrest, 37" x 72"
		684775	*Backrest, 41" x 36"
		684776	*Backrest, 41" x 48"
		684777	*Backrest, 41" x 60"
		248948	*Backrest, 46" x 48"
		684778	*Backrest, 49" x 36"
		684779	*Backrest, 49" x 48"
		684780	*Backrest, 49" x 60"
		231595	*Backrest, 52" x 48"
		684781	*Backrest, 61" x 36"
		684782	*Backrest, 61" x 48"
		684783	*Backrest, 61" x 60"
2	4	200173	Capscrew, M16x2,0x35-8.8
3	4	684586	Lockwasher, M16

* - Item 1 includes items 2 and 3.

6 ROLLER CARRIAGES

55D-MS-288 Through Present



Carriage drawing is for reference only, specific carriage may look different.

CARR-2

55D MS 6 Roller Carriages			
REF	QTY	Part #	Description
1	1	204855	37" Cushion Carriage Weldment
		204856	41" Cushion Carriage Weldment
		204859	49" Cushion Carriage Weldment
		204860	61" Cushion Carriage Weldment
		204863	37" Pneumatic Carriage Weldment
		204864	41" Pneumatic Carriage Weldment
		204865	49" Pneumatic Carriage Weldment
		204866	61" Pneumatic Carriage Weldment

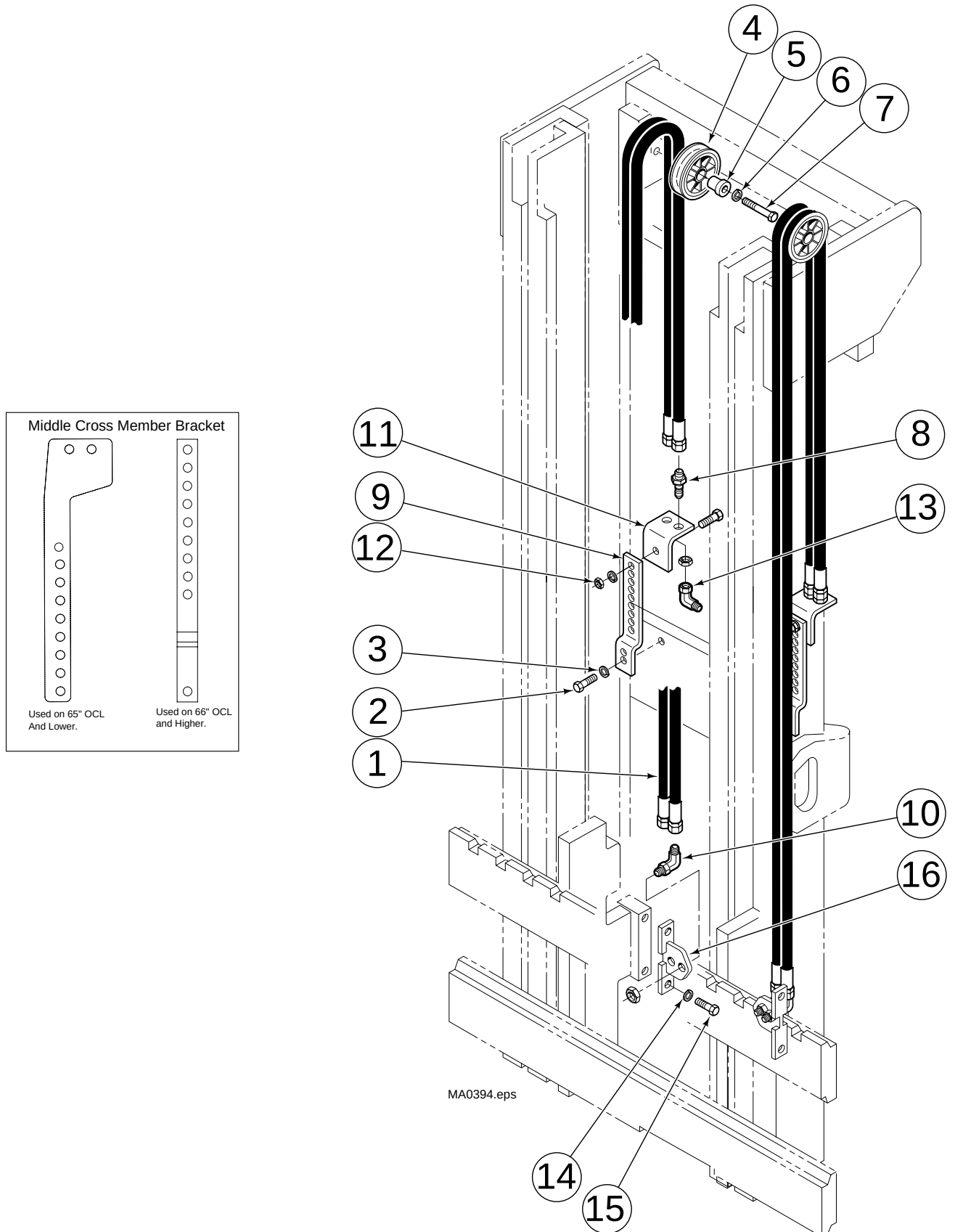
* - Quantity will vary.

① - Included in Carriage Service Kit P/n 228257.

Common Parts			
REF	QTY	Part #	Description
2	① 4	684125	Capscrew
3	① 4	684660	Lockwasher
4	① 4	683819	Thrust Roller
5	① 2	3135	Snap Ring
6	① 2	678667	Chain Anchor Pin
7	① 4	6508	Cotter Pin
8	① 2	678662	Chain Anchor
9	①*24	631881	Shim
10	① 4	662145	Load Roller
11	① 2	658378	Retainer Plate
12	① 4	680218	Capscrew
13	① 2	660050	Load Roller
14	1	219400	Fork Stop Kit

INTERNAL HOSE REEVING DIAGRAM

55D-MS-288 Through Present



Note: Double IHR is shown. Single is installed on one side only.

INTERNAL HOSE REEVING CHART

55D-MS-288 Through Present

IHR-1

IHR COMMON PARTS										
ITEM	QTY		PART #	DESCRIPTION		ITEM	QTY		PART #	DESCRIPTION
	Single	Double					Single	Double		
			3548	Layout Drawing		10	3	6	2453	Fitting, Bulkhead Elbow
2	2	4	684649	Capscrew, M10x25		11	1	2	683919	Bar
3	2	4	683826	Lockwasher, M10		12	1	2	763023	Nut, M10
4	1	2	209623	Hose Sheave		13	1	2	2680	Fitting 6-6
5	1	2	684657	Shaft		14	2	4	206315	Lockwasher, M8
6	1	2	683822	Lockwasher, M12		15	2	4	787372	Capscrew, M8x20
7	1	2	684650	Capscrew, M12x55		16	1	2	206898	Bracket
8	2	4	2375	Fitting, Bulkhead Union						
9	1	1	202198	Bracket, OCL 56" - 65"						
			684658	Bracket, OCL 66" - up						

IHR-2

Standard 12' Mast

OCL	IHR GROUP	HOSE ITEM 1	OCL	IHR GROUP	HOSE ITEM 1	OCL	IHR GROUP	HOSE ITEM 1
	QTY 1	QTY 2		QTY 1	QTY 2		QTY 1	QTY 2
56	201431	3550-1482	83	688618	3550-2751	110	688645	3550-4100
57	201479	3550-1531	84	688619	3550-2801	111	688646	3550-4147
58	201480	3550-1581	85	688620	3550-2851	112	688647	3550-4200
59	201481	3550-1631	86	688621	3550-2901	113	688648	3550-4250
60	201482	3550-1681	87	688622	3550-2945	114	688649	3550-4297
61	201483	3550-1731	88	688623	3550-3005	115	688650	3550-4350
62	201484	3550-1781	89	688624	3550-3155	116	688651	3550-4400
63	201485	3550-1831	90	688625	3550-3100	117	688652	3550-4446
64	206652	3550-1880	91	688626	3550-3155	118	688653	3550-4500
65	201487	3550-1930	92	688627	3550-3205	119	688654	3550-4550
66	688601	3550-1904	93	688628	3550-3250	120	688655	3550-4596
67	688602	3550-1953	94	688629	3550-3305	121	688656	3550-4650
68	688603	3550-2003	95	688630	3550-3355	122	688657	3550-4700
69	688604	3550-2053	96	688631	3550-3399	123	688658	3550-4746
70	688605	3550-2103	97	688632	3550-3455	124	688659	3550-4800
71	688606	3550-2153	98	688633	3550-3505	125	688660	3550-4850
72	688607	3550-2203	99	688634	3550-3549	126	688661	3550-4895
73	688608	3550-2252	100	688635	3550-3605	127	688662	3550-4950
74	688609	3550-2302	101	688636	3550-3655	128	688663	3550-5000
75	688610	3550-2352	102	688637	3550-3699	129	688664	3550-5045
76	688611	3550-2402	103	688638	3550-3750	130	688665	3550-5100
77	688612	3550-2452	104	688639	3550-3800	131	688666	3550-5150
78	688613	3550-2502	105	688640	3550-3848	132	688667	3550-5194
79	688614	3550-2552	106	688641	3550-3905	133	688668	3550-5250
80	688615	3550-2602	107	688642	3550-3950	134	688669	3550-5316
81	688616	3550-2651	108	688643	3550-3998	135	688670	3550-5366
82	688617	3550-2701	109	688644	3550-4050			

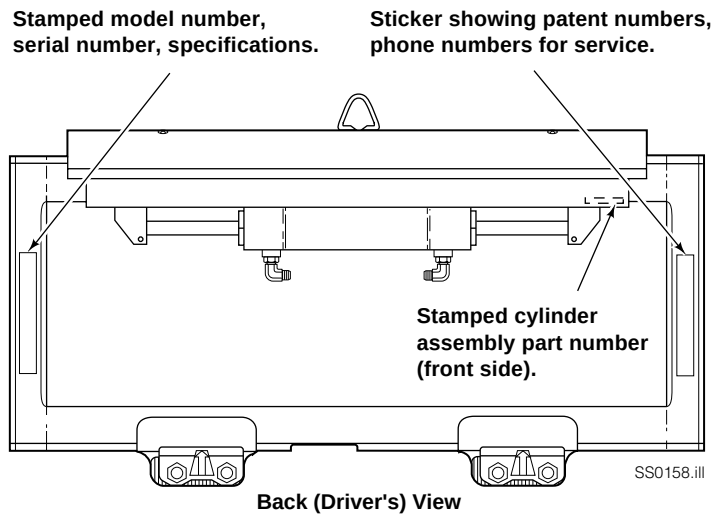
OCL - Outer Channel Length

SIDESHIFTER - F SERIES**INTRODUCTION TO SIDESHIFTER SECTION**

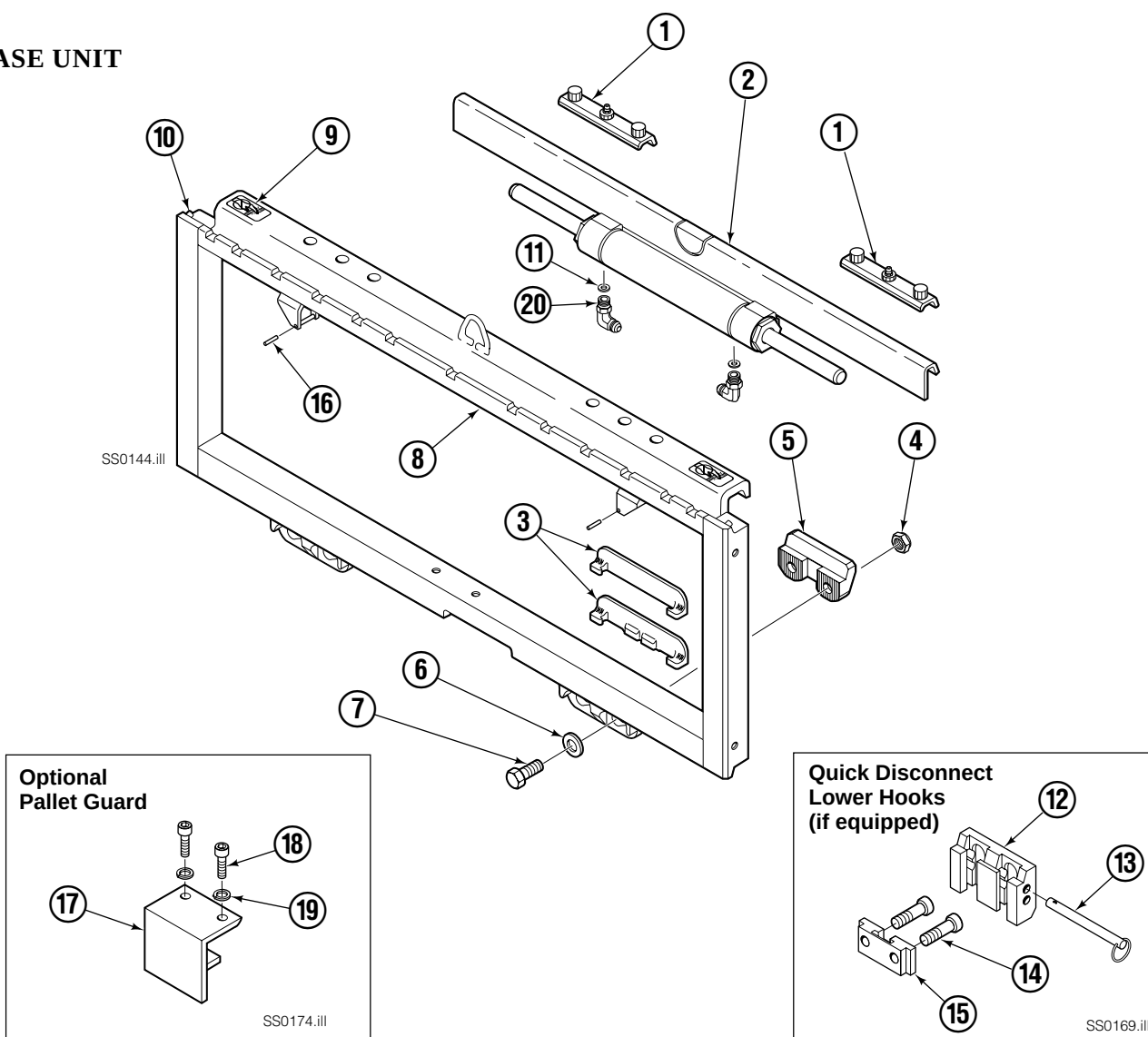
Product Identification – This Section shows replacement parts for F-Series Sideshifters. The product model number and serial number are stamped on the back surface of the LH vertical bar (driver's view), and must be provided when ordering replacement parts. The cylinder/anchor bracket assembly part number is stamped on the front surface RH end of the anchor bracket (driver's view).



WARNING: For the safety of yourself and others, DO NOT install the parts shown in this Manual unless you have thoroughly reviewed the appropriate Service Manual.



BASE UNIT



55F							
REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
1	▼	6020486	Upper Bearing Kit, Composite	11	2	221733	Flow Restrictor, 1.5 mm ID
1	▼	6033485	Upper Bearing Kit, Bronze (option) ✕	12	2	675514	Q.D. Lower Hook
1	▼	6033486	Upper Bearing Kit, Bronze (option) +	13	2	678832	Pin
2	1	■	Cylinder Assembly	14	4	683182	Capscrew, M16 x 35
3	▼	6033487	Lower Bearing Kit, Composite	15	2	675515	Guide
3	▼	226842	Lower Bearing Kit, Bronze (optional)	16	2	7891	Roll Pin, .188 dia. x 1.625
★ 4	4	553857	Nut, 5/8 NC, GR5	◆ 17	1	220689	Pallet Guard
★ 4	4	781534	Nut, M16	◆ 18	2	769573	Capscrew, M16
★ 5	2	204186	Lower Hook	◆ 19	2	684586	Lockwasher
5	2	228166	Lower Hook, Bronze (optional)	20	2	601676	Fitting-90, JIC 6-6
★ 6	4	667225	Washer, 5/8		2	207304	Fitting- Long 90, JIC 6-6
★ 7	4	639121	Capscrew, 5/8 NC x 1.5, GR5		2	667222	Fitting-90, JIC 5-6
★ 7	4	766154	Capscrew, M16 x 45, GR8.8		2	666984	Fitting-90, JIC 4-6
8	1	●	Frame		2	604511	Fitting-Straight, JIC 6-6
9	2	221906	Safety Decal		2	211807	Fitting-90, Face Seal 4-6
10	1	219400	Fork Stop Kit (Includes 2 stops)		2	220832	Fitting-Straight, Face Seal 4-6

▼ Kits contain 2 bearings.

✕ Order Kit 6033485 for cylinder stamped 10039-XX.

+ Order Kit 6033486 for cylinder stamped 21006-XX or 6XXXXXX.

■ See Cylinder page for parts breakdown.

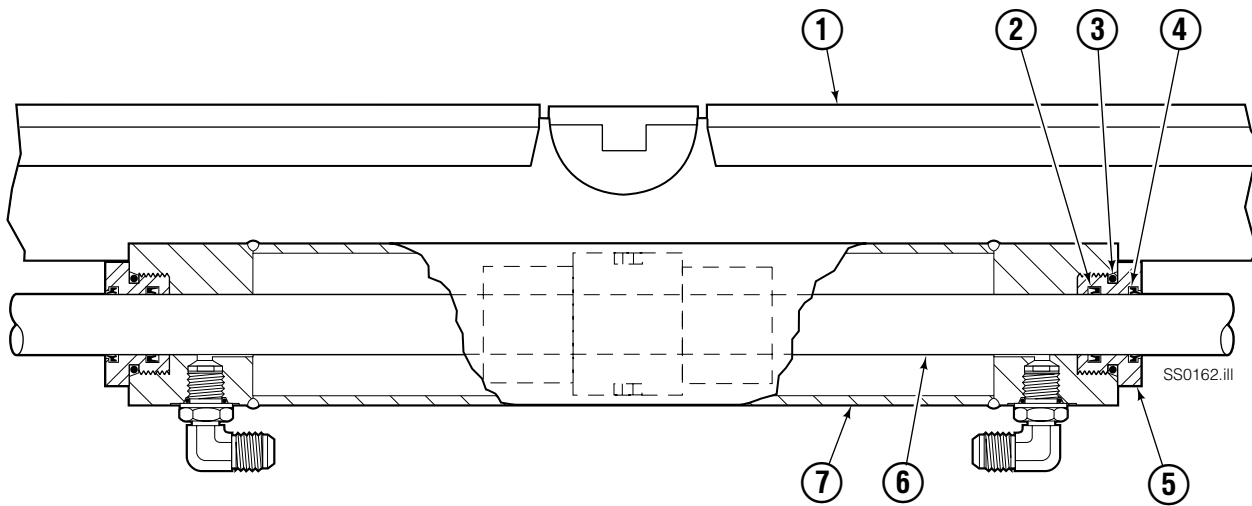
★ Included in Lower Hook Service Kit 204182

● If Frame needs replacing, order complete Sideshift Assembly

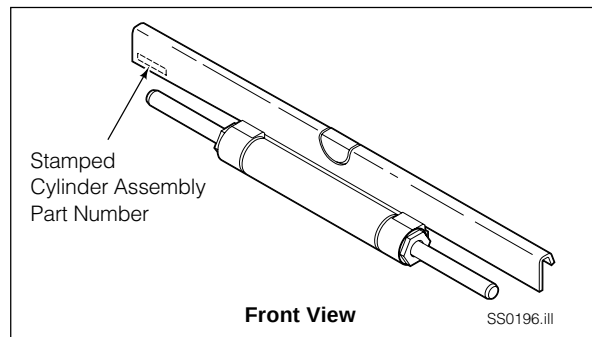
◆ Included in Pallet Guard Kit 220688.

Reference: SK-6349

CYLINDER ASSEMBLY



55F				
REF	QTY	PART NO.	DESCRIPTION	
★ 1	1	10039-XXX◆	Cylinder Assembly	
1	1	21006-XXX◆	Cylinder Assembly	
1	1	6XXXXXX◆	Cylinder Assembly	
● 2	2	562132	Rod Seal	
● 3	2	415866	O-Ring, 70 Duro	
● 4	2	562131	Rod Wiper Seal	
5	2	218324	Retainer/Seal Carrier	
6	—	■	Rod/Piston Assembly	
7	—	■	Cylinder Shell	
		219868	Rod Seal Service Kit	



★ No longer available. Replaced by current Cylinder Assembly plus Bearing Service Kit 6000617 or 6000618 which includes roll pins and upper bearings.
 ● Included in Service Kit 219868.

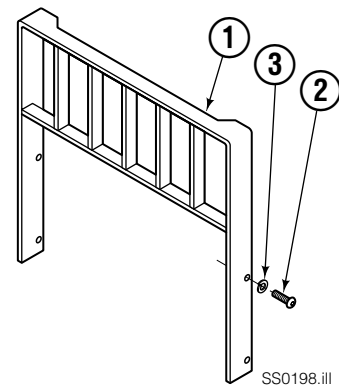
■ Not serviceable, order new Cylinder Assembly.

◆ Refer to complete part number stamped on cylinder assembly, or serial number stamped on frame.

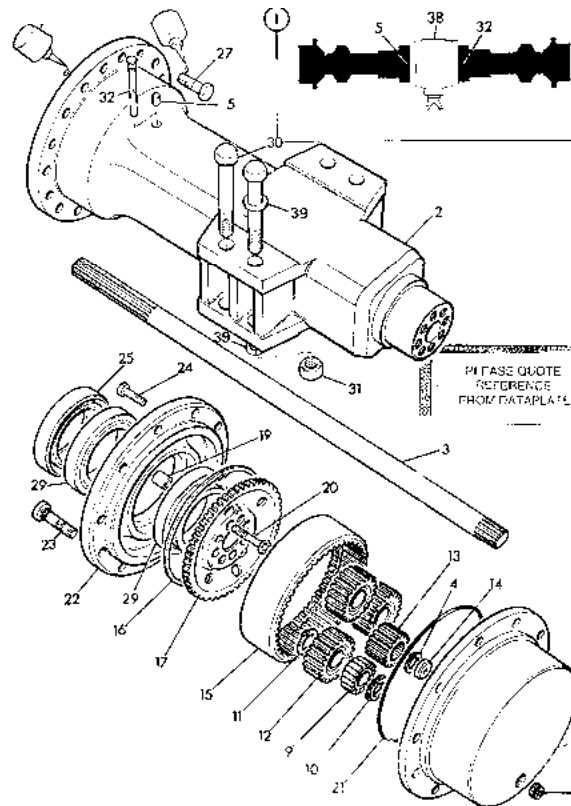
Reference: S-10039

BACK REST

55F					
		Backrest Height			
		36 in. (91.5 cm)	48 in. (122 cm)	60 in. (152.5 cm)	
REF	QTY	PART NO.	PART NO.	PART NO.	DESCRIPTION
1	1	684769	684770	684771	Backrest – 31 in. (78.7 cm) Width
1	1	684772	684773	684774	Backrest – 37 in. (94 cm) Width
1	1	684775	684776	684777	Backrest – 41 in. (104 cm) Width
1	1	684778	684779	684780	Backrest – 49 in. (124.5 cm) Width
1	1	684781	684782	684783	Backrest – 61 in. (155 cm) Width
2	4	200173			Capscrew, M16x2 x 35
3	4	684586			Lockwasher, M16



Reference: S-3370

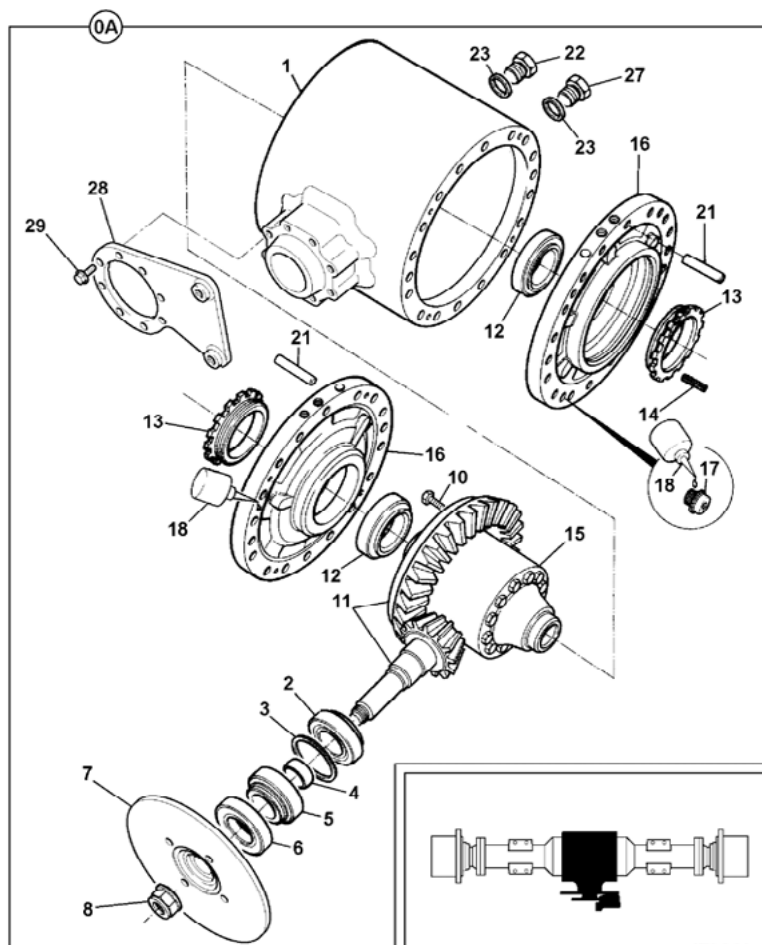
POWERTRAIN**FRONT AXLE DIAGRAM
PD70 462/20880**

Item	Part No.	Description	Remarks	Qty.
01	462/20880	Axle		001
02	458/20299	Casing		002
03	914/60125	Driveshaft		002
04	821/00494	Circlip		002
05	450/13001	Breather		001
06	816/60040	Nipple		002
07	826/00425	Plug		002
08	450/10216	Hub		002
09	907/50200	Bearing		006
10	821/00209	Circlip		012
11	2203/0054	Circlip		006
12	450/10206	Gear		006
13	450/12403	Gear sun		002
14	450/10208	Pad		002
15	450/10205	Gear		002
16	821/00210	Circlip		002
17	450/12702	Carrier		002
19	450/12703	Dowel		016
20	826/01060	Bolt		016
21	828/00196	O Ring		002
22	458/20446	Carrier		002
23	826/00923	Stud		020
24	1321/0407 Z	Bolt		004
25	904/50033	Seal		002
27	1321/3716	Bolt		028
29	907/52200	Bearing		004
30			Not inc. in this assembly	008
31			Not inc. in this assembly	016
32	450/13302	Plug		001
36	4102/1200	Sealant		A/R
37	835/00017	Cap		002
38	458/11259	Differential assembly		001
39			Not inc. in this assembly	016

FRONT AXLE

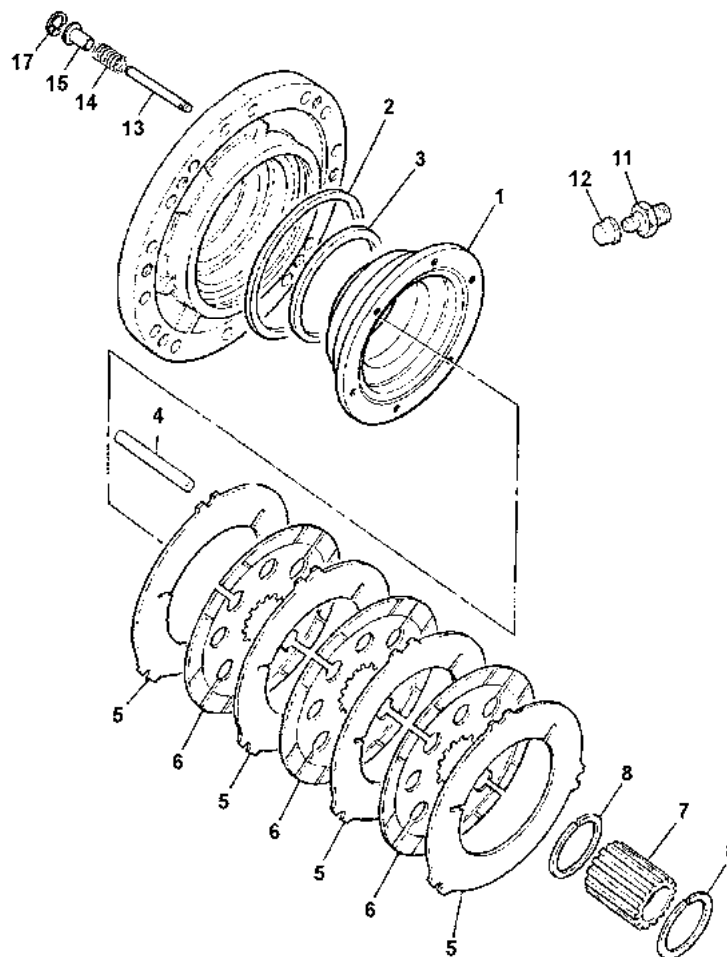
PD70 DRIVEHEAD DIAGRAM

462/20880



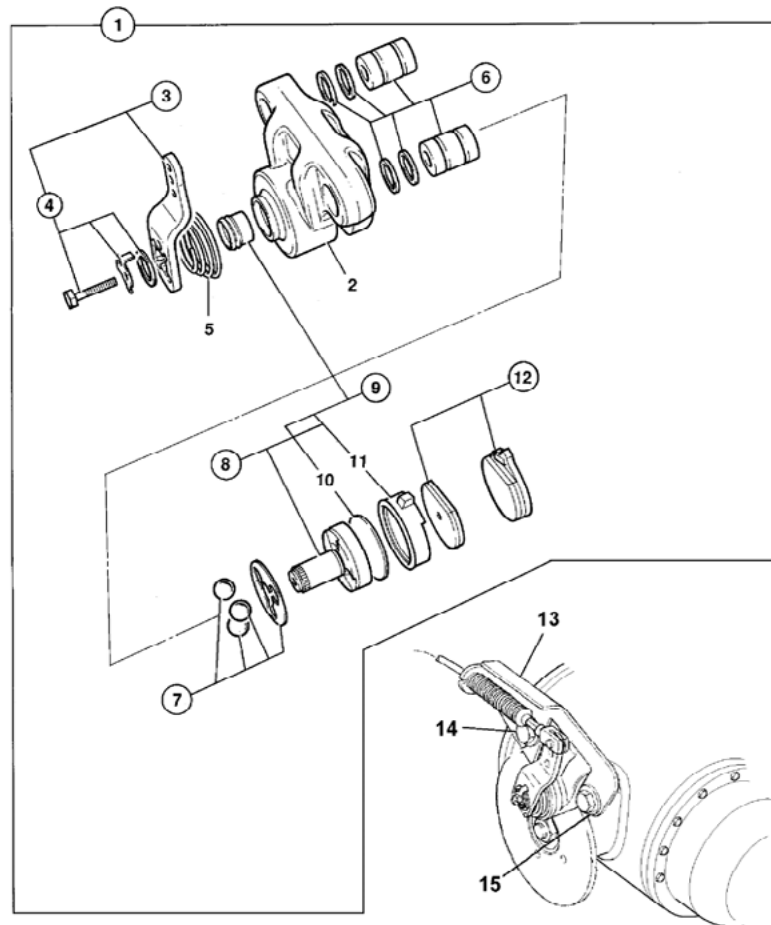
Item	Part No.	Description	Remarks	QTY
00A	458/11259	Drivehead assembly		001
01	458/20418	Casing		001
02	907/09000	Bearing		001
03	921/01900	Kit-shim		001
04	921/53400	Kit-Spacer		001
05	907/08300	Bearing		001
06	904/50023	Seal		001
07	458/20693	Disc		001
08	826/01744	Nut		001
10	826/01080	Bolt		020
11	458/70258	Gear crownwheel & pinion	13/38T	001
12	907/50100	Bearing		002
13	450/10403	Nut		002
14	826/00818	Pin		002
15	450/10900	Differential assy		001
16	458/20365	Housing brake piston		002
17	1392/3407	Capscrew		008
18	4102/1212	Gasket		A/R
21	826/00919	Dowel		004
22	816/80012	Plug		001
23	1406/0021	Seal		002
27	816/80037	Plug		001
28	458/20511	Bracket		001

BRAKES 462/20880 DIAGRAM FRONT AXLE PD70



Item	Part No.	Description	QTY
01	458/20371	Piston	002
02	813/50012	Seal	002
03	813/50026	Seal	002
04	450/10213	Pin	006
05	458/20285	Plate	012
06	458/20353	Plate	010
07	450/10215	Carrier	002
08	2203/0071	Circlip	004
11	816/60040	Nipple	002
12	835/00017	Cap	002
13	450/18204	Pin	006
14	814/00365	Spring	006
15	448/16905	Bush	006
17	2203/1020	Circlip	006

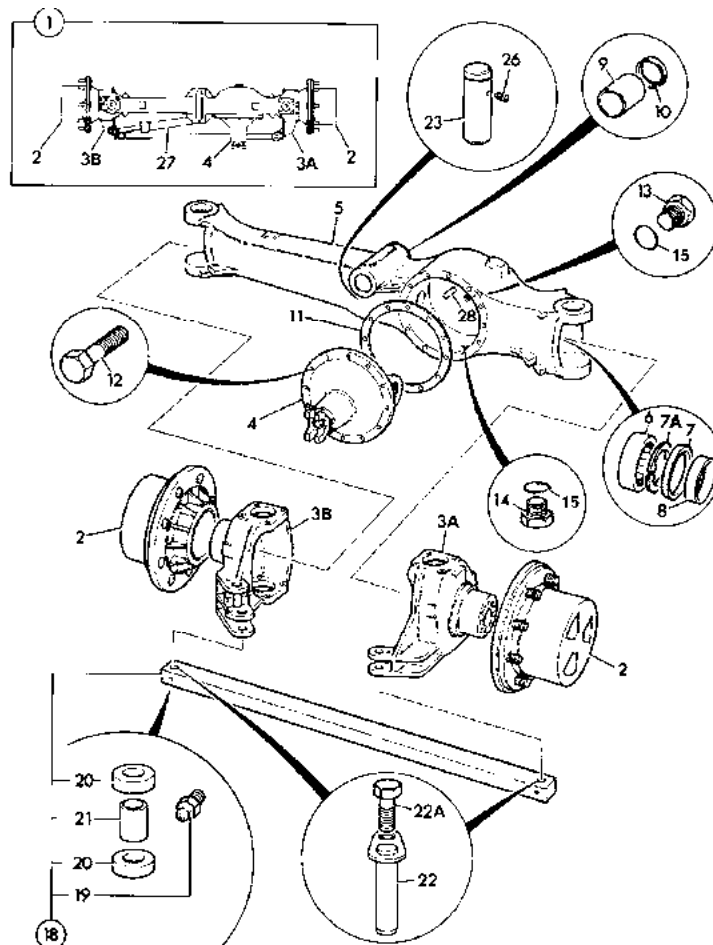
PARKING BRAKE 462/20880 DIAGRAM
FRONT AXLE PD70



Item	Part No.	Description	QTY
01	15/920270	Brake	001
02	N.S.P	None serviced part	001
03	15/920314	Kit	001
04	15/920289	Kit-bolt	001
05	15/920315	Kit	001
06	15/920433	Kit-bush	001
07	478/00844	Kit-bearing	001
08	15/915204	Kit	001
09	15/920292	Kit-seal	001
10	NSP	None serviced part	001
11	NSP	None serviced part	001
12	15/920103	Kit-pad	001
13	331/17273	Bracket	001
14	458/20511	Bracket	001
15	826/10526	Bolt	008
16	823/00603	Washer	008

REAR AXLE SD55 DIAGRAM

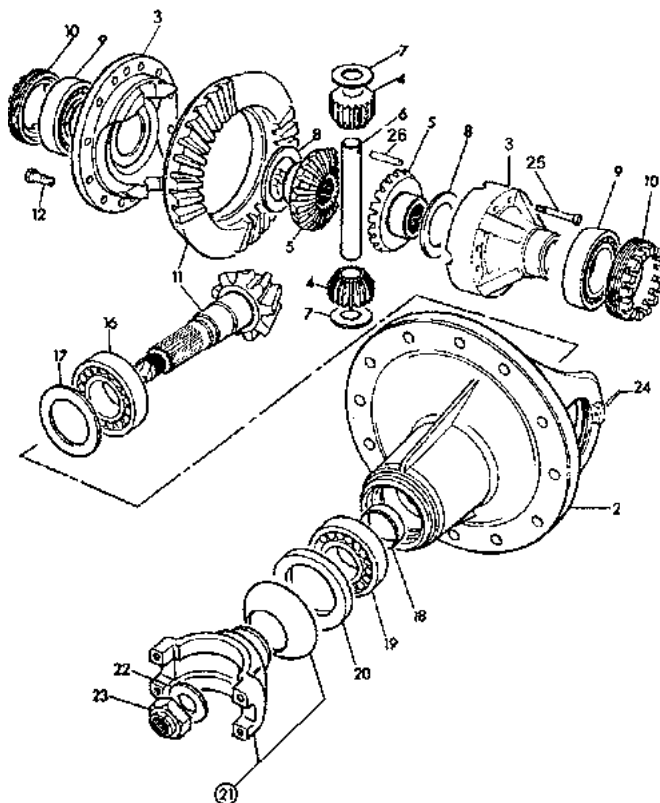
461/22790



Item	Part No.	Description	Remarks	QTY
01	461/22790	Axle		001
02	.	'See Remark'	Hub	002
03A	.	'See Remark'	Steer Knuckle	001
03B	.	'See Remark'	Steer Knuckle	001
04	.	'See Remark'	Differential	001
05	458/20450	Casing		001
06	907/08400	Bearing		002
07	904/50040	Seal		002
07A	2203/1082	Circlip		002
08	448/04802	Ring		002
09	808/00548	Bush		002
10	904/06500	Seal		002
11	4102/1201	Gasket		A/R
12	826/01434	Bolt		012
13	816/80037	Plug		001
14	816/80012	Plug		001
15	1406/0021	Seal		002
18	458/10426	Trackrod		001
19	1450/0001	Nipple		001
20	904/09300	Seal		002
21	808/00253	Bush		001
22	911/22800	Pin		002
22A	1321/0405Z	Bolt		002
23	811/10071	Pin Cyl. Steering		001
26	826/01580	Bolt M10x40		001

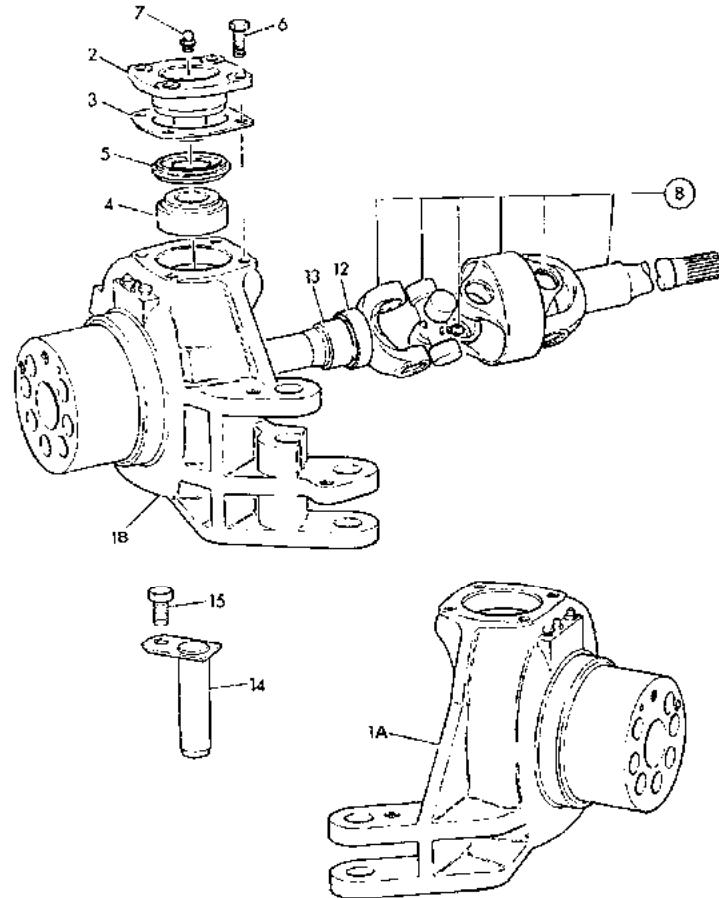
DRIVEHEAD 461/22790 DIAGRAM

REAR AXLE SD55



Item	Part No.	Description	Remarks	QTY
01	448/56590	Differential assembly		001
02	448/15701	Casting		001
03	448/23500	Differential case		001
04	448/36400	Differential gear kit		001
05	448/36400	Differential gesr kit		001
06	448/05408	Pin		001
07	808/00210	Washer		002
08	808/00209	Washer		002
09	907/09200	Bearing		002
10	448/05405	Nut		002
11	458/70025	Gear, crownwheel & pinion	33T/ 11T	001
12	826/01084	Bolt		012
15	.	'See Remark'		001
16	907/09000	Bearing		001
17	921/01900	Kit-shim		A/R
18	921/53300	Spacer		001
19	907/09100	Bearing		001
20	904/50023	Seal		001
21	450/27200	Yoke		001
22		Washer	Not required	001
23	826/01483	Nut		001
24	826/00818	Pin		002
25	826/01585	Bolt		001
26	2102/0816	Pin		008

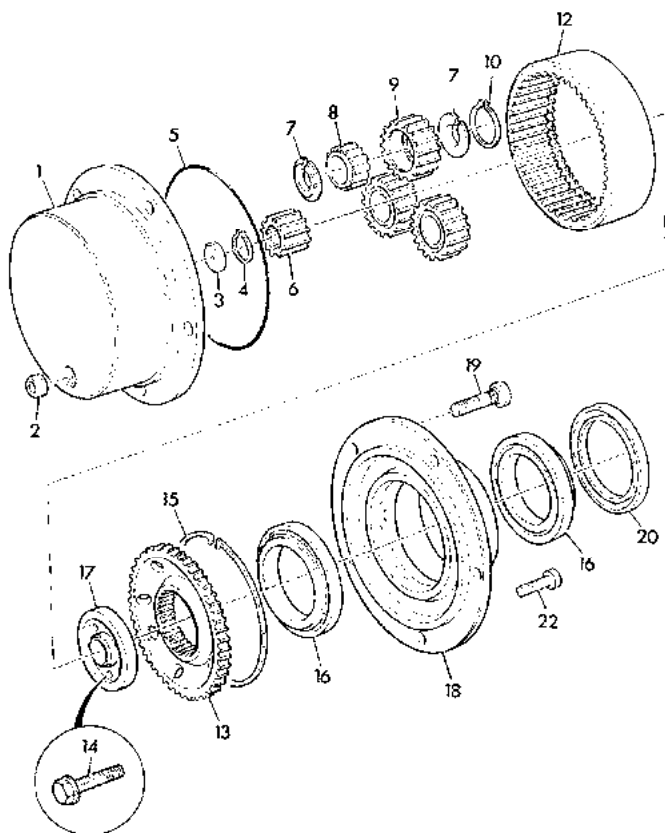
STEER KNUCKLE 461/22790 DIAGRAM REAR AXLE SD55



Item	Part No.	Description	Remarks	QTY
01A	453/30712	Joint, steer knuckle	Short driveshaft side	001
01B	453/30702	Joint, steer knuckle	Long driveshaft side	001
02	458/20061	Trunnion		001
03			Not fitted	001
04	907/08300	Bearing		004
05	904/06700	Seal		002
06	1321/0509	Bolt		004
07	816/60056	Nipple		004
08	914/60104	Driveshaft, long		016
	914/60105	Driveshaft, short		
12	904/50047	Seal		004
13	917/50200	Bearing		002
14	911/22800	Pin		002
15	1321/0405 Z	Bolt M10 x 20		002

HUB COMPONENTS 461/22790 DIAGRAM

REAR AXLE SD55

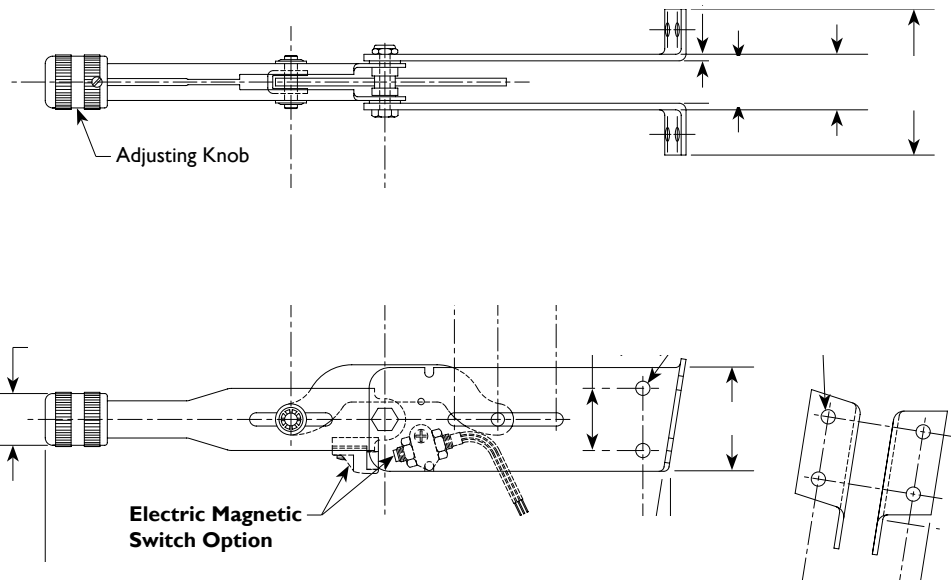
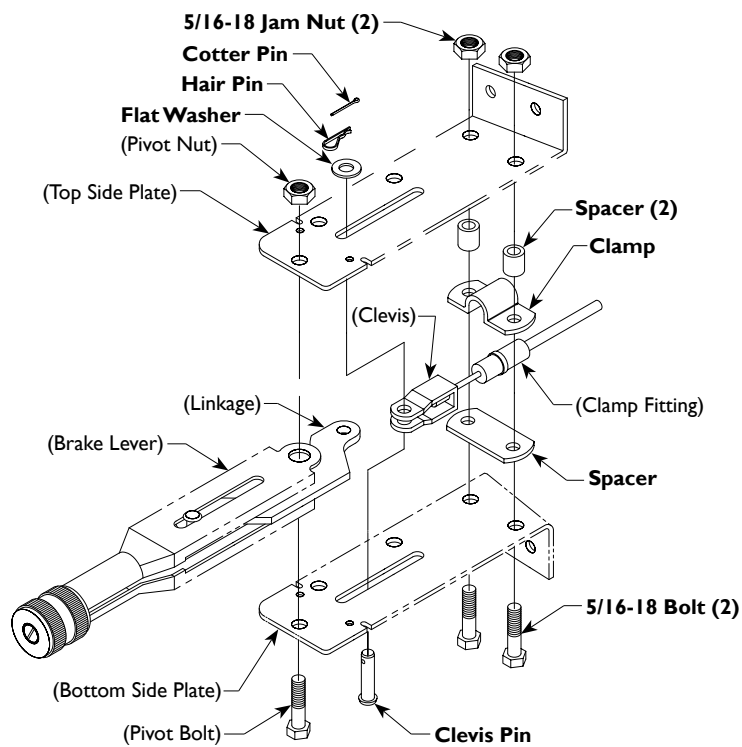


Item	Part No.	Description	QTY
01	450/10216	Carrier	002
02	826/00425	Plug	002
03	450/10208	Pad	002
04	821/00494	Circlip	002
05	828/00196	O Ring	002
06	450/10210	Gear, sun	002
07	821/00209	Circlip	012
08	907/50200	Bearing	006
09	450/10206	Gear	006
10	2203/0054	Circlip	006
12	450/10205	Gear	002
13	453/04402	Carrier	002
14	826/01435	Bolt	008
15	821/00210	Circlip	002
16	907/52200	Bearing	004
17	453/08203	Plate	002
18	450/20446	Hub	002
19	826/00923	Stud	010
20	904/50033	Seal	002
22	1321/0407Z	Bolt	004

BRAKES**PARKING BRAKE**

GL11210, Brake Lever Assy. w/ kit and switch

GL11805 Switch Assy., electric brake

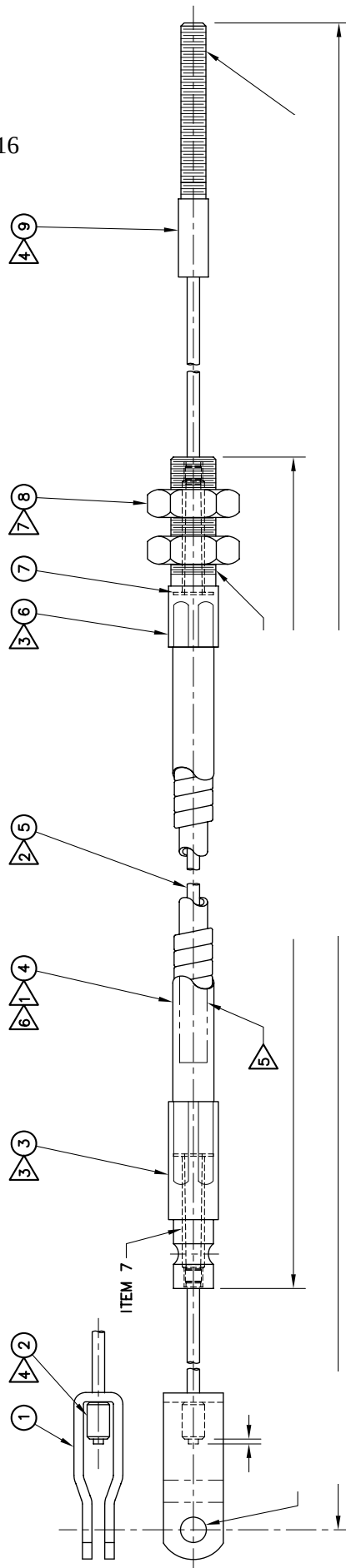
**01-5001-03 Hardware Kit**
(Items listed in parentheses not included in kit) ?

BRAKE CABLE

GL 11395

Clevis & Pin 5/16 - 24 x 5/16

MAP 029132001

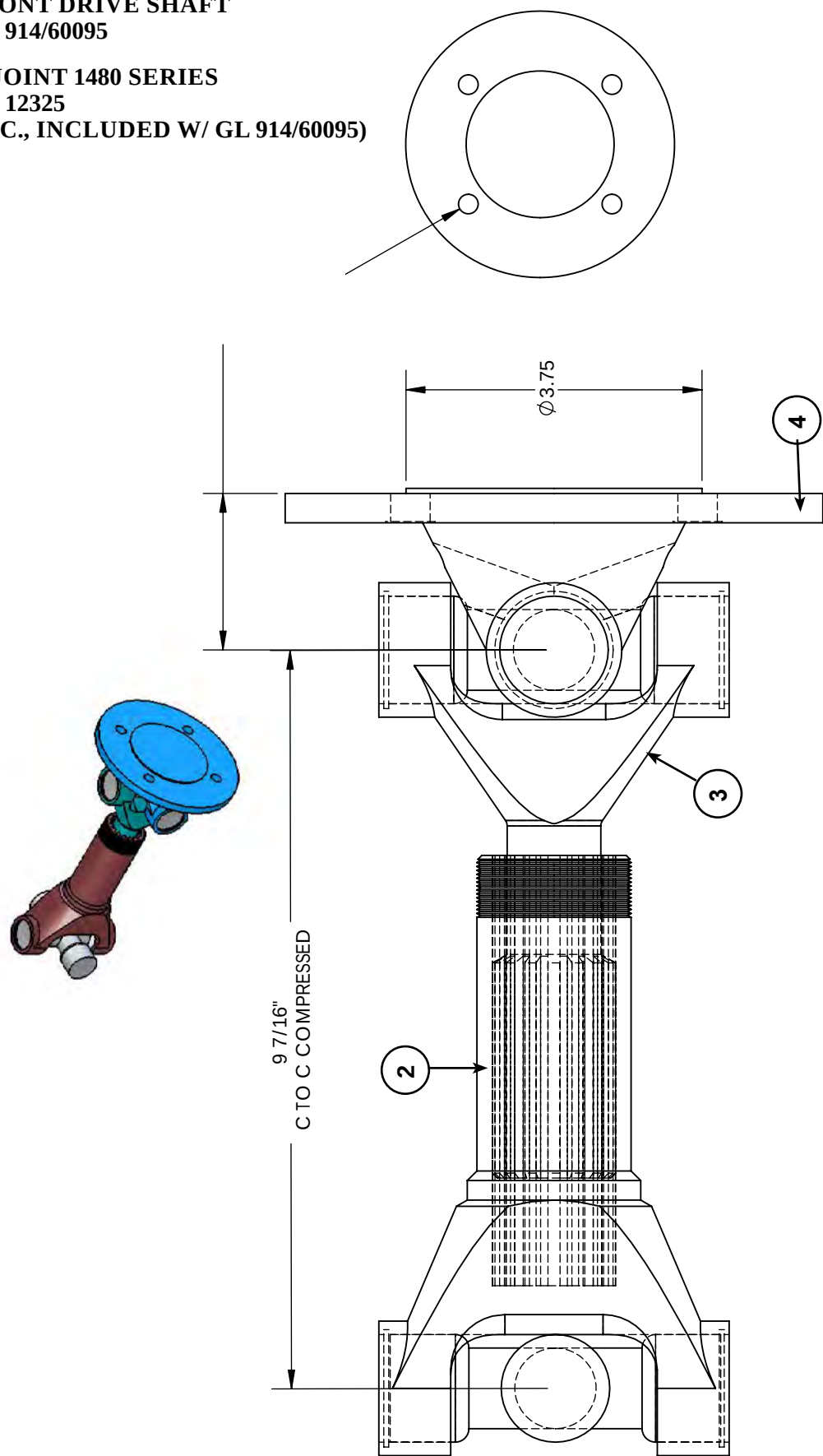


9	1	21-1058-03	END ROD	
8	2	80-0006-72	NUT, JAM (9/16-12)	7
7	2	03-0001-33	INTERNAL SEAL	
6	1	21-2405-02	CONDUIT FITTING	
5	A/R	510187-00	.187 DIA 1x37 GALV. CABLE	
4	A/R	712515-H1-01	.515 DIA CONDUIT	1
3	1	21-2410-02	CONDUIT FITTING	
2	1	21-1086-05	CABLE FITTING (SWAGED)	
1	1	22-2121-09	CLEVIS	
ITEM		PART NUMBER	DESCRIPTION	
NO	QTY / ASSY	PARTS LIST		

DRIVESHAFT

FRONT DRIVE SHAFT
GL 914/60095

U-JOINT 1480 SERIES
GL 12325
(2PC., INCLUDED W/ GL 914/60095)

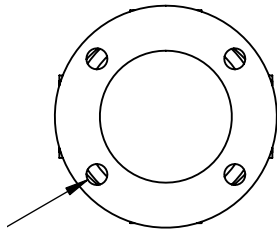
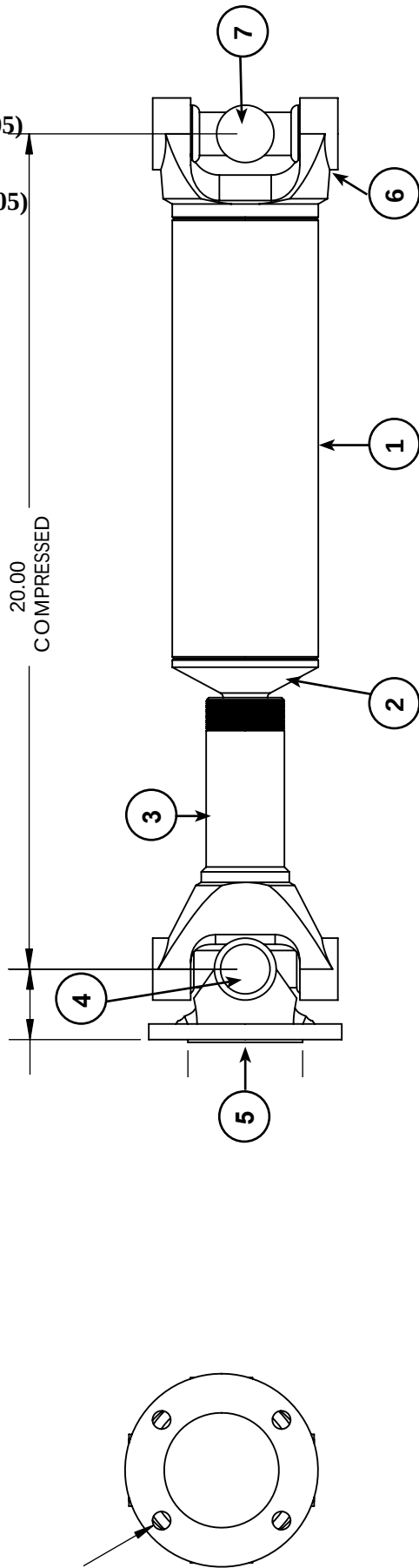


ITEM	PART NUMBER	GENERAL DESCRIPTION	SPECIFIC DESCRIPTION	QTY.
1	5-188	BEARING	1480 1480	2
2	3-3-1601KX	SLIP YOKE ROUND	1480 SERIES, 1.563-16 SPLINE, 6.812 C2E	1
3	3-82-1121	YOKE SHAFT ROUND	1480 SERIES, 1.563-16 SPLINE, 6.750 C2E	1
4	3-2-479	FLANGE YOKE ROUND	1480 SERIES, M, 2.000 F2C	1

REAR DRIVESHAFT
GL 11305

U-JOINT 1410 SERIES
GL12330 (1PC., INCLUDED W/ GL 11305)

U-JOINT 1480 SERIES
GL 12325 (1PC., INCLUDED W/ GL 11305)

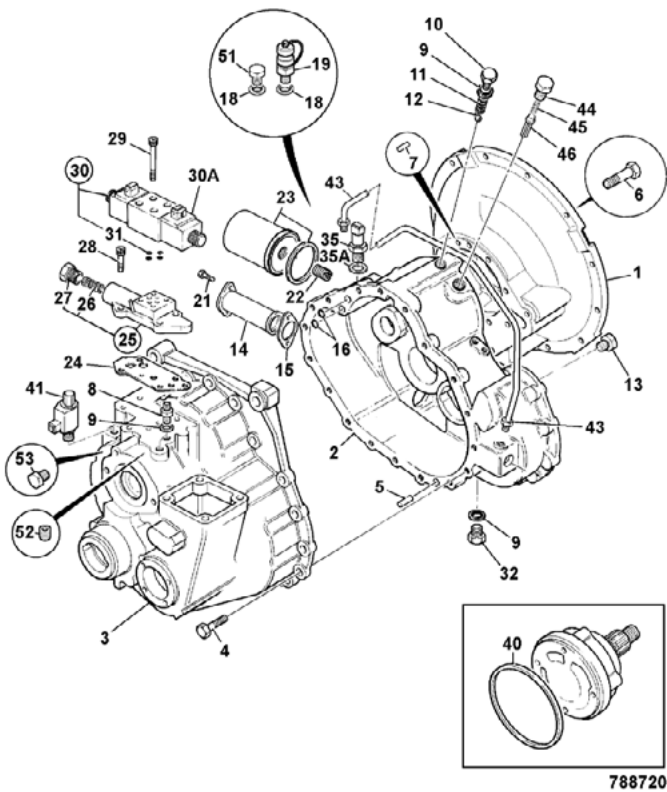


ITEM NO.	PART NO.	GENERAL DESCRIPTION	SPECIFIC DESCRIPTION	QTY.
1	3-50-.083x10.530	TUBE / DOM	---	*MUST ORDER GL 11305
2	3-40-1531	SLIP STUB	1.500-16 SPLINE, 3.50-.083 TUBE, 6.562 W2E	*MUST ORDER GL 11305
3	3-3-118KX	SLIP YOKE ROUND	1410 SERIES, 1.500-16 SPLINE, 6.5 C2E	1
4	5-160	BEARING	1410 1410	1
5	3-2-159	FLANGE YOKE ROUND	1410 SERIES, M, 1.688 F2C	1
6	3-28-537	WELD YOKE ROUND	1480 SERIES, 3.50-.083 TUBE, 2.031 C2F	*MUST ORDER GL 11305
7	5-188	BEARING	1480 1480	1

TIRES

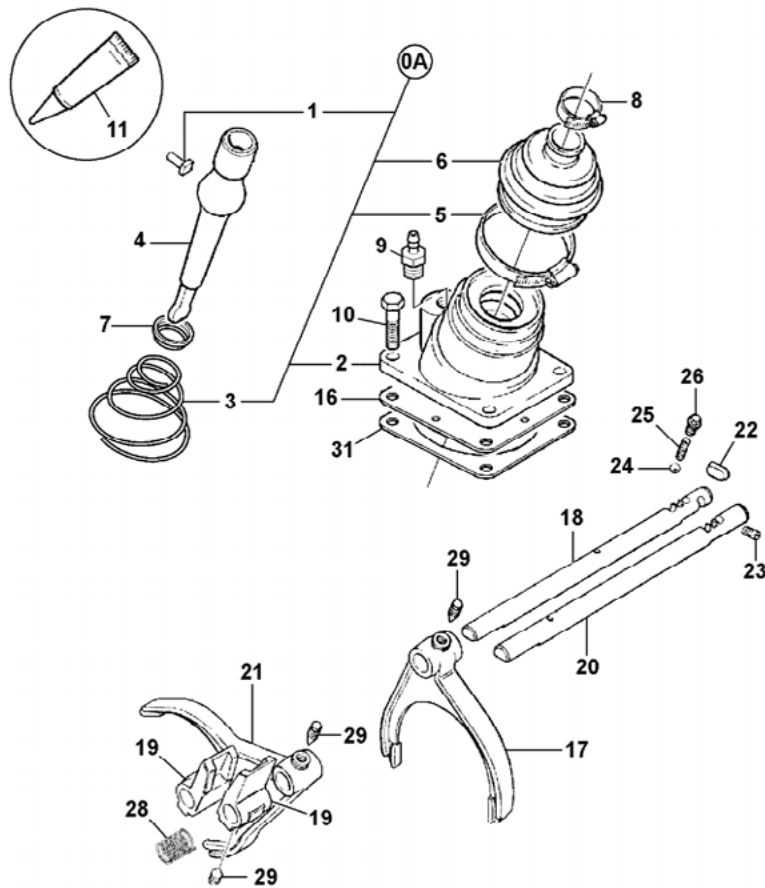
GL 11130 12.5/80-18 10 PLY.

GL 11135 16.9 X 24 10 PLY.

TRANSMISSION**SS700 4WD, 460/60050 DIAGRAM**

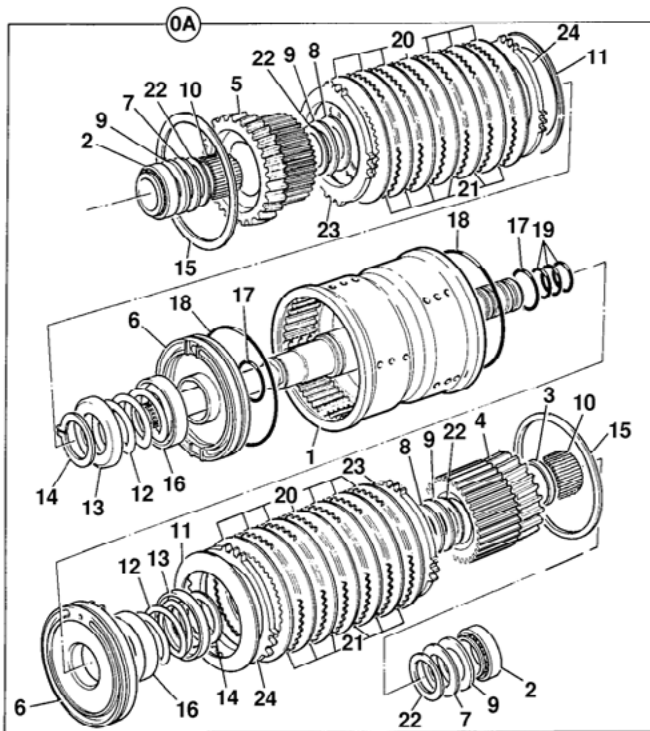
Item	Part No.	Description	QTY
01	459/30464	Housing	1
02	459/30439	Casing	1
03	459/70382	Casing	1
04	826/01417	Bolt	18
05	445/14001	Dowel	2
06	1315/0409Z	Screw	12
07	445/14001	Dowel	2
08	1606/0017	Adapter	2
09	1406/0018	Seal	4
10	816/80041	Plug	3
11	814/00222	Spring	1
12	916/00008	Bearing	2
13	816/80041	Plug	2
14	32/902200	Strainer	1
15	813/50027	Gasket	1
16	828/10222	O Ring	2
18	1406/0011	Seal	2
19	45/905000	Adapter	1
20	813/50027	Gasket	1
21	1321/0303Z	Screw	2
22	816/15184	Adapter	1
23	581/18076	Element	1
24	813/10175	Gasket	1
25	459/10144	Valve	1
26	814/00412	Spring	1
27	816/80063	Plug	1
28	1392/3207	Capscrew	4
29	1391/3108Z	Capscrew	4
30	25/220998	Valve	1
30A	25/221054	Coil	1
31	35/100801	Kit-seal	1
32	816/80041	Plug	1
35	701/80626	Switch	1
35A	1406/0011	Seal	1
40	813/50041	Seal	1
41	459/m2874	Valve	1
43	830/12564	Pipe	1
44	816/80061	Plug	1
45	814/10170	Spring	1
46	459/70168	Spool	1
51	816/82009	Plug	1
52	826/10707	Screw	1
53	816/80051	Plug	2

SS700 4WD, GEAR CHANGE DIAGRAM TRANSMISSION



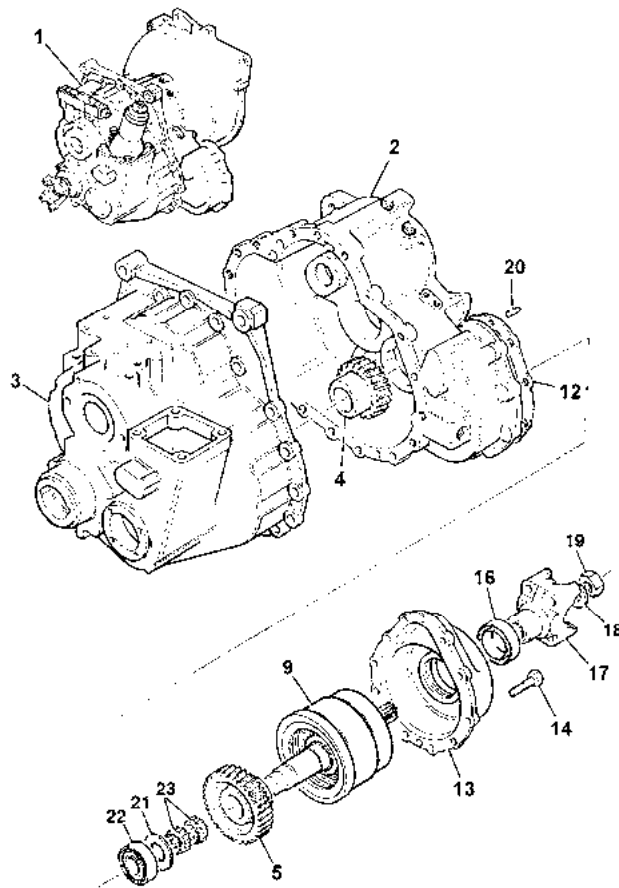
Item	Part No.	Description	QTY
00A	459/10167	Housing	001
01	445/03023	Pin	001
02	460/17602	Housing	001
03	814/00221	Spring	001
04	445/03022	Lever	001
05	445/05301	Clip	001
06	445/03021	Gaiter	001
07	445/03020	Retainer	001
08	445/05302	Clip	001
09	816/13382	Adapter	001
10	826/01361	Setscrew	004
11	4102/1212	Gasket	A/R
16	460/17603	Baffle	001
17	459/30297	Fork	001
18	459/70181	Shaft	001
19	459/70199	Block	002
20	459/70181	Shaft	001
21	459/30299	Fork	001
22	445/03031	Roller	001
23	816/80027	Plug	001
24	916/00006	Ball	002
25	814/00354	Spring	002
26	816/80057	Plug	002
28	814/00406	Spring	001
29	445/26110	Screw	004
31	813/50042	Gasket	001

SS700 4WD, REVERSER UNIT DIAGRAM TRANSMISSION



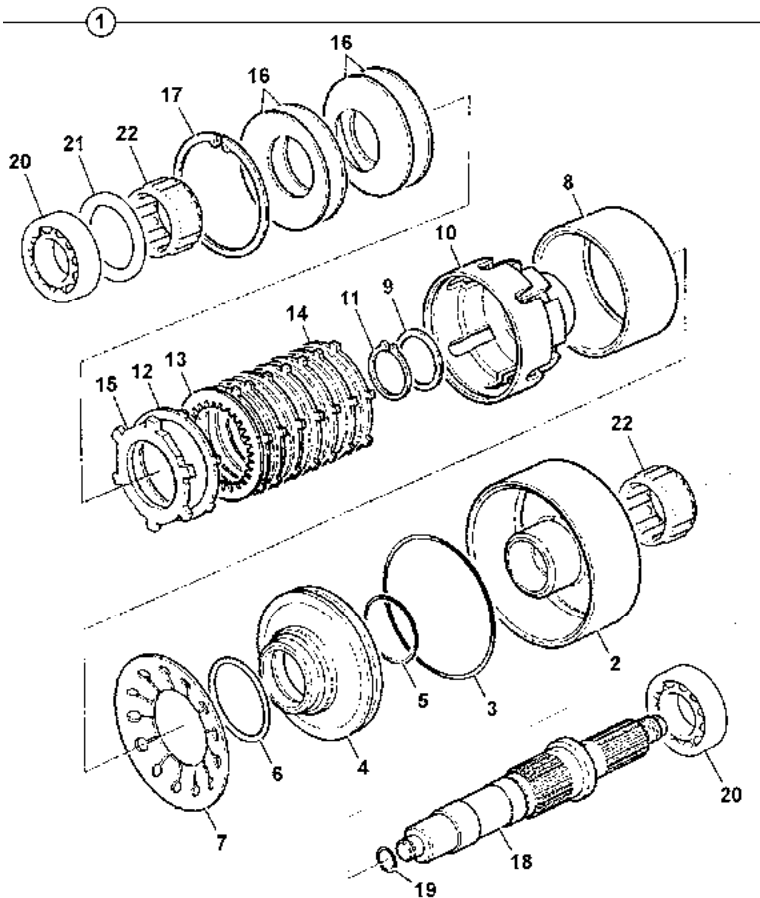
Item	Part No.	Description	QTY
00A	459/10097	Clutch	001
01	459/50503	Housing	001
02	907/20012	Bearing	002
03	823/10355	Spacer	001
04	459/50428	Gear	001
05	459/50429	Gear	001
06	459/10096	Piston	002
07	823/10264	Washer	002
08	823/10265	Washer	002
09	917/10006	Bearing	004
10	917/50600	Bearing	002
11	814/10115	Disc	002
12	814/00345	Spring	002
13	823/10266	Washer	002
14	821/00296	Circlip	002
15	826/10467	Circlip	002
16	331/16558	Plate	002
17	828/10180	O Ring	002
18	828/10181	O Ring	002
19	904/50024	Seal	004
20	331/16520	Plate	010
21	331/16516	Plate	010
22	823/10316	Washer	004
23	331/16517	Plate	002
24	331/16519	Plate	a/r

SS700 4WD, 460/60050 DIAGRAM TRANSMISSION



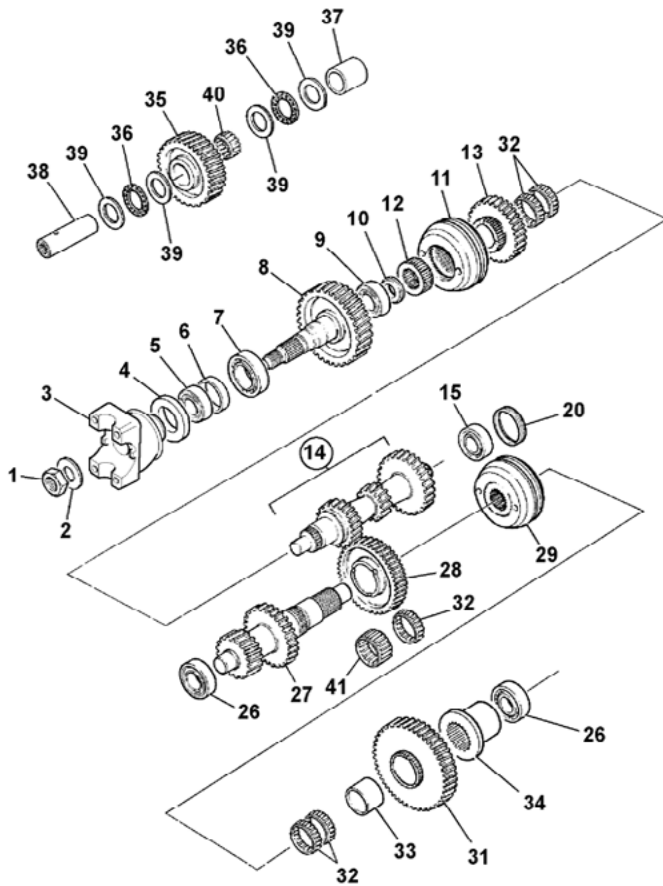
Item	Part No.	Description	Remarks	QTY
1	460/60050	Gearbox SS700		1
2	459/30463	Casing front		1
3	459/30435	Casing rear		1
4	459/05701	Gear input, 24t		1
5	445/20101	Gear output		1
9	459/10239	Clutch assembly 4WD		1
12	4102/1212	Gasket liquid		A/R
13	459/30451	Cover, 4wd		1
14	826/01417	Bolt		10
16	904/20172	Seal		1
17	331/12043	Flange		1
18	823/00328	Washer		1
19	826/00817	Setscrew		1
20	445/14001	Dowel		2
21	823/10582	Washer, thrust	Part of item 9	1
22	907/20031	Bearing	Part of item 9	2
23	917/02600	Bearing, needle roller	Part of item 9	2

SS700 4WD, CLUTCH UNIT DIAGRAM TRANSMISSION



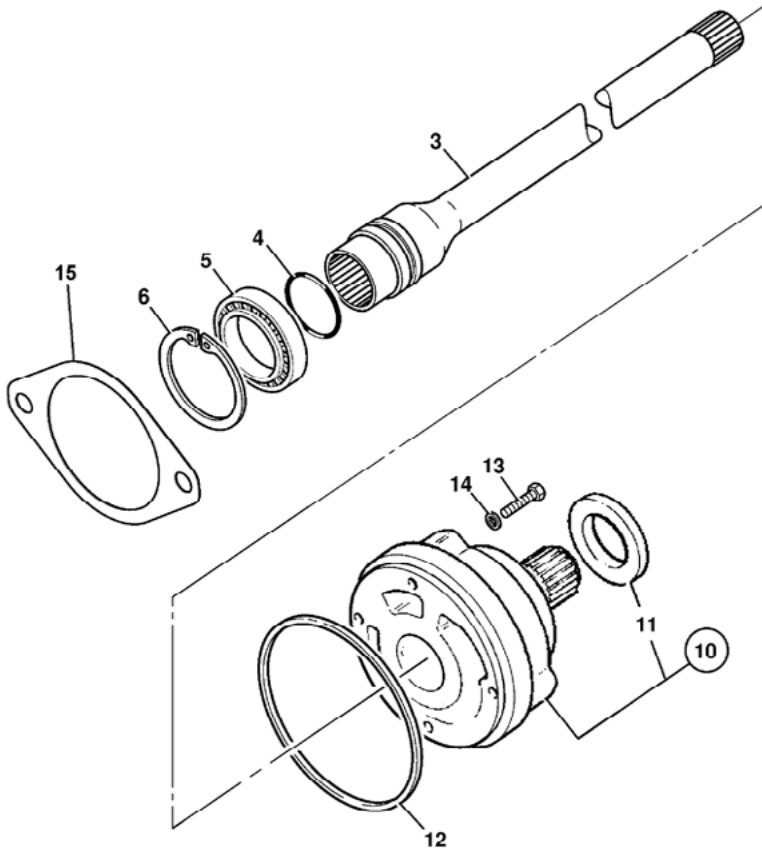
Item	Part No.	Description	QTY
01	459/10239	Clutch	001
02	445/19802	Housing	001
03	2403/0244	O Ring	002
04	445/15701	Piston	001
05	2403/0221	O Ring	001
06	445/05114	Ring	001
07	445/05118	Disc	002
08	445/19805	Sleeve	002
09	445/19808	Washer	002
10	445/64701	Drum	004
11	821/00447	Circlip	002
12	445/19807	Plate	002
13	445/05106	Plate	002
14	445/05107	Plate	002
15	445/19804	Plate	002
16	445/05110	Disc	002
17	2203/1104	Circlip	002
18	459/50689	Shaft	001
19	904/14300	Seal	001
20	907/20031	Bearing	002
21	823/10582	Washer	001
22	917/02600	Bearing	002

SS700 4WD, INTERNAL COMPONENTS DIAGRAM



Item	Part No.	Description	Remarks	QTY
01	826/01551	Nut		001
02	460/32202	Washer		001
03	459/70317	Yoke		001
04	904/20172	Seal		001
05	907/51600	Bearing		001
06	921/53400	Kit-Spacer		001
07	907/53800	Bearing		001
08	459/50208	Gear		001
09	907/20005	Bearing		001
10	445/64302	Spacer		001
11	445/03300	Synchroniser		001
12	445/03010	Sleeve		001
13	459/50206	Gear		001
14	459/50205	Gear		001
15	907/52800	Bearing		001
20	459/70378	Seal		001
26	907/09600	Bearing		002
27	459/50188	Layshaft		001
28	459/50511	Gear		001
29	459/50520	Synchroniser		001
31	459/50509	Gear		001
32	917/02300	Bearing		002
33	917/00008	Bearing		001
34			Not reqd. on 4WD	001
35	459/50440	Gear		001
36	917/51400	Bearing		002
37	459/70206	Spacer		001
38	459/70087	Shaft		001
39	823/00451	Washer		004
40	917/02400	Bearing		001
41	917/10000	Bearing		001

SS700 4WD, PUMP & MAIN HYD PUMP DRIVE DIAGRAM



Item	Part No.	Description	QTY
03	917/10000	Bearing	001
04	826/10707	Screw	001
05	459/50431	Shaft	001
06	904/20210	Ring	001
10	916/10012	Bearing	001
11	2203/1068	Circlip	001
12	20/925552	Pump	001
13	904/20226	Seal	001
14	813/50041	Seal	001
15	1315/3311Z	Bolt	004

WHEEL ASSEMBLY

GL 12220 WHEEL ASSEMBLY, 15 X 24

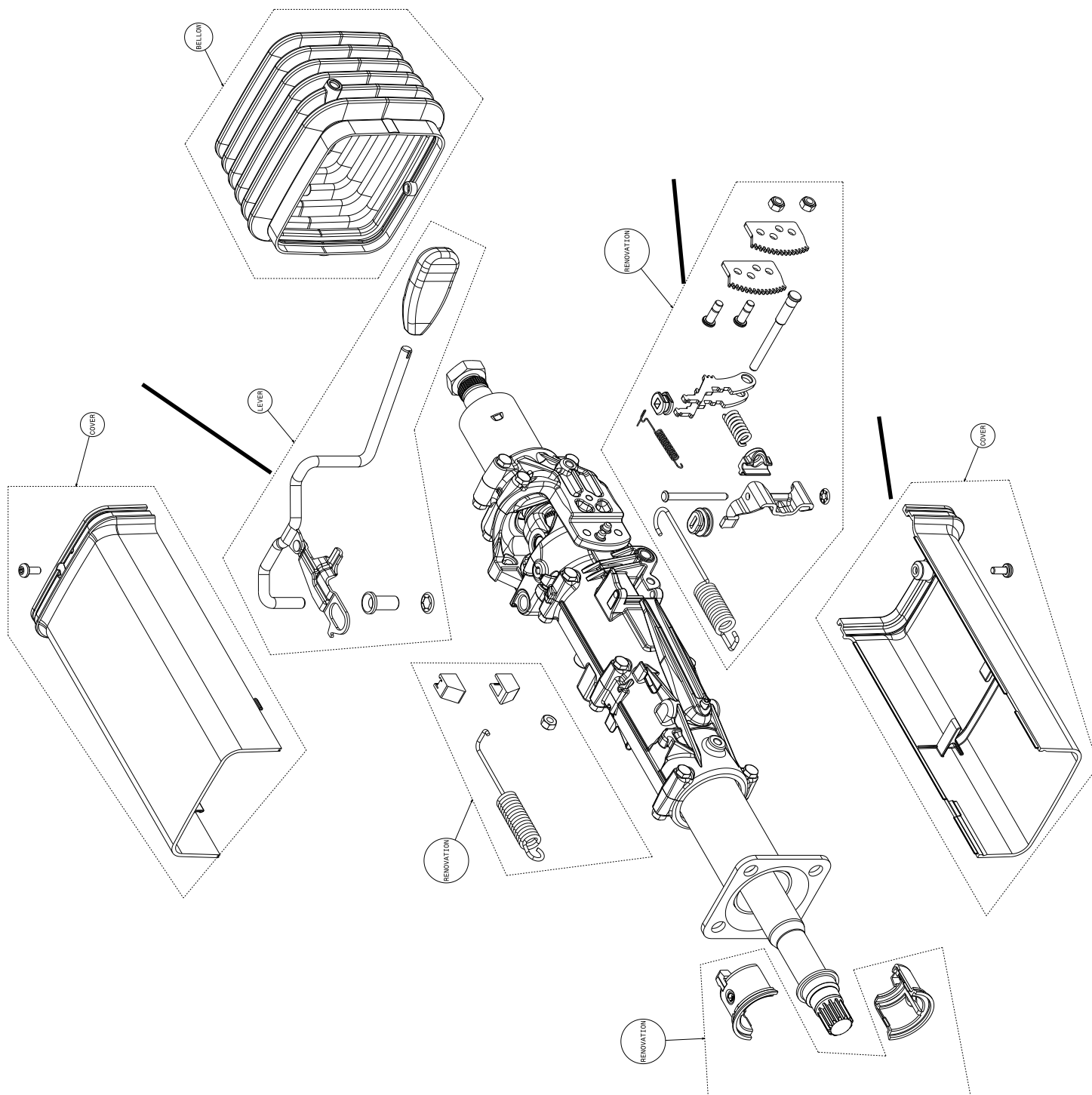
GL 12215 WHEEL ASSEMBLY 9 X 18

STEERING

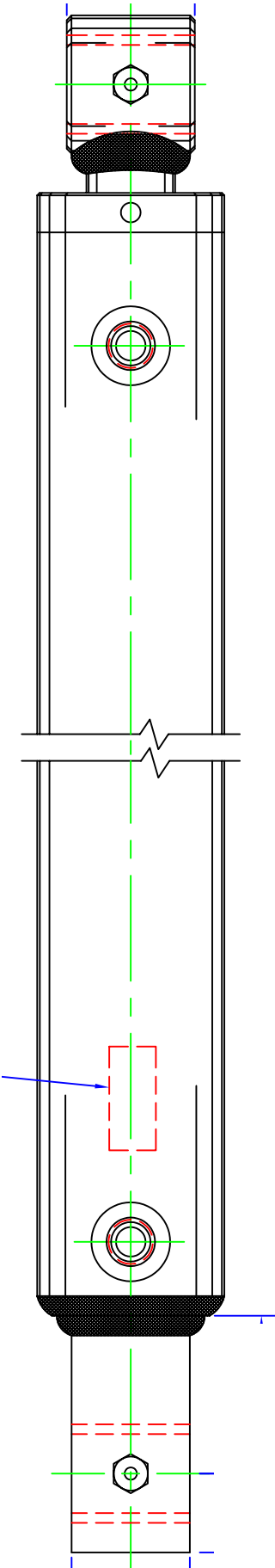
STEERING COLUMN

GL 11195

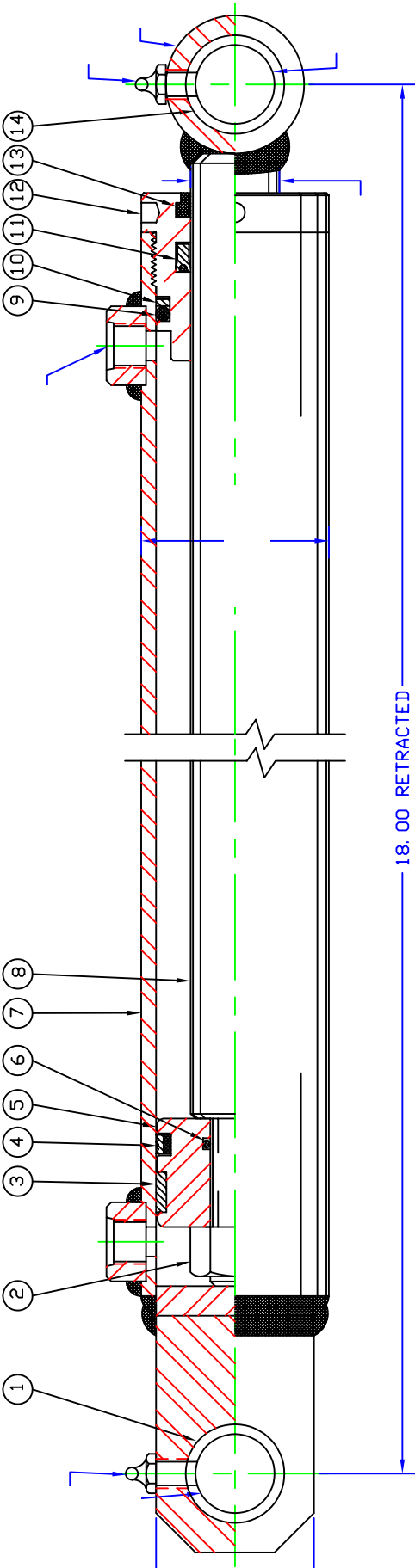
REPLACEMENT PARTS NOT AVAILABLE USE

GL 11195

STEERING CYLINDER
2" X 10" GL 11890



SEAL KIT
GL 12310



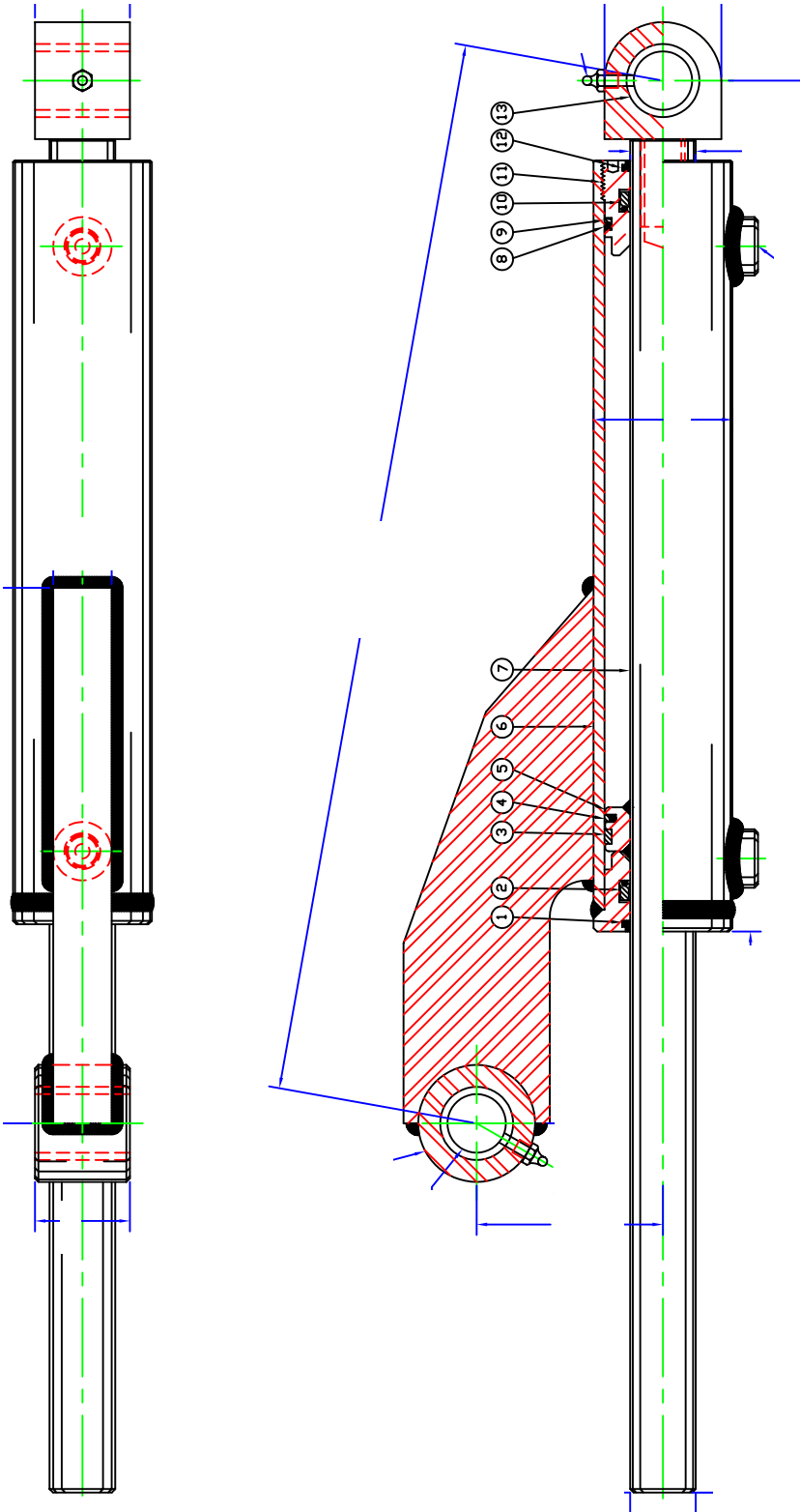
ITEM	PART NO.	DESCRIPTION	REQ'D	ITEM	PART NO.	DESCRIPTION	REQ'D
1	23064	BRONZE BUSHING	1	10	39326	BACKUP WASHER	1
2	30202	LOCKNUT	1	11	21116	POLYPAK (TYPE 'B')	1
3	21203	WEAR RING	1	12	1362501	GLAND NUT	1
4	22207	PSP SEAL	1	13	12112	ROD WIPER	1
5	18114	PISTON (STEEL)	1	14		BRONZE BUSHING	1
6		'RING	1	15			
7		JACKET ASSEMBLY	1	16			
8		PISTON ROD	1	17			
9	18326	'RING	1	18			

STEERING CYLINDER DIAGRAM

Reference: Machines with serial numbers GL 2000 - GL 2023, Cylinder # GL 11201 Seal Kit # GL 12295

Reference: Machines with serial numbers GL 2024 - current, Cylinder # GL 11890 Seal Kit # GL 12310

ITEM	PART NO.	DESCRIPTION	REQ'D	ITEM	PART NO.	DESCRIPTION	REQ'D
1		ROD WIPER	1	10	21116	POLYPAK (TYPE 'B')	1
2	21116	POLYPAK (TYPE 'B')	1	11	1355301	GLAND NUT	1
3	30203	WEAR RING	1	12		ROD WIPER	1
4	21207	EXPANDER SEAL	1	13		BRONZE BUSHING	2
5		PISTON (STEEL)	1	14			
6		JACKET ASSEMBLY	1	15			
7		PISTON ROD	1	16			
8	18224	O-RING	1	17			
9	39224	BACKUP WASHER	1	18			

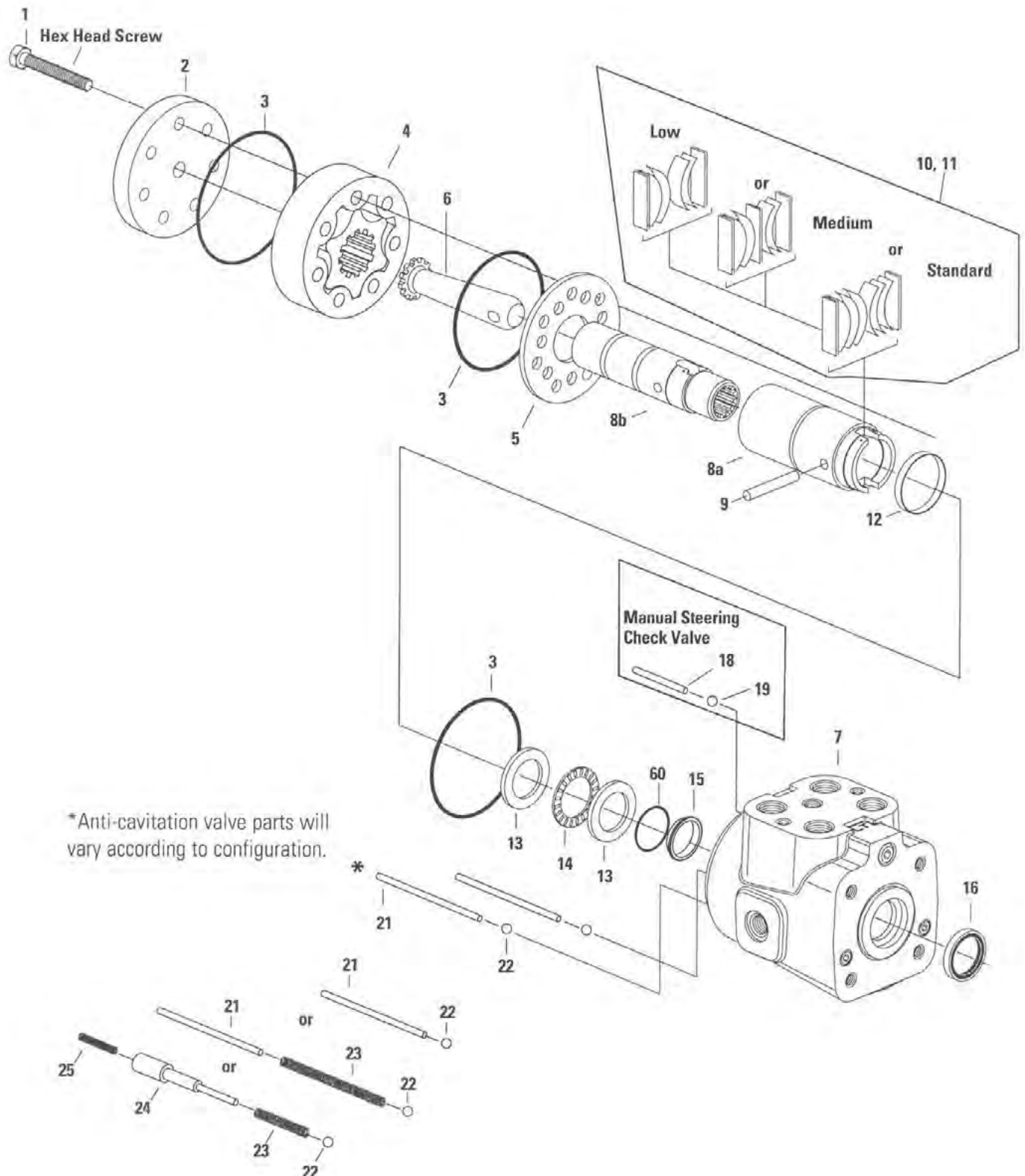


STEERING MOTOR

GL 11160

SEAL KIT

9900287-000



STEERING MOTOR PARTS BREAKDOWN

ITEM NO.	PART NO.	QTY.	DESCRIPTION
1	See Table 1.0	7	Cap Screw, Hex Head
2	23901-000	1	Cap, End
3	5776-000	3	Seal, 72,6 mm [2.86 in.] ID
4	See Table 1.0	1	Gerotor, Sub-assembly
5	113094-000	1	Plate, Spacer
6	112238-000	1	Drive
7	204107-XXX	1	Housing, Valve
8a		1	Control Sleeve
8b		1	Control Spool
9	15-000	1	Pin, Centering
10	112714-000	2 or 3	Spring, Spacer
11	113599-000	4 or 6	Spring, Centering
12	112737-000	1	Retainer Spring
13	14880-000	2	Bearing Race
14	5544-000	1	Bearing, Needle Thrust
15	9332-000	1	Seal – 24,9 mm [.98 in.] ID
16	844-000	1	Dust Seal
18	16026-422P	1	Pin, Roll – 34,92 mm [1.375 in.] Length
19	285020-080	1	Ball – 6,35 mm [.25 in.] OD
21	16026-436	2	Pin, Roll – 40,00 mm [1.575 in.] Length
22	18015-000	2	Ball, Check – 6,35 mm [.250 in.] OD
23	230400-000	2	Compression Spring
	or 4999516-000	2	Compression Spring (See main parts assembly drawing)
24	113598-000	2	Anti-cav plug retainer
25	230313-000	2	Compression Spring
60	4999651-001	1	O-ring
	9900287-000		Seal Kit