INSTALLATION INSTRUCTIONS

DURACLASS TELESCOPIC HOISTS

MODELS
HPT53-90
HPT53-90-10

WARNING

IF INCORRECTLY USED, THIS EQUIPMENT CAN CAUSE SEVERE INJURY. THOSE WHO USE AND MAINTAIN THE EQUIPMENT SHOULD BE TRAINED IN ITS PROPER USE, WARNED OF ITS DANGERS, AND SHOULD READ THE INSTALLATION INSTRUCTIONS AND THE OPERATOR'S MANUAL BEFORE ATTEMPTING TO SET UP, OPERATE, ADJUST OR SERVICE THE EQUIPMENT.

INTRODUCTION

This instruction manual contains installation procedures for the HPT53-90 and HPT53-90-10 hoists.

UNPACKING

When you receive your hoist, make sure you have received all your parts by checking them against the following list. Parts marked with a "@" sign are shipped loose and are not in the kit box.

IMPORTANT SAFETY NOTICE

Proper installation, service and repair are important to the safe, reliable operation of The DuraClass's products. Installation and service procedures recommended by DuraClass are described in this service manual and are effective for performing installation and service operations. Some of these operations may require the use of tools or blocking devices specially designed for the purpose. Special tools should be used when and as recommended. It is important to note that some warnings against the use of specific methods that can damage the product or render it unsafe are stated in this manual. It is also important to understand these warnings are not exhaustive. DuraClass could not possibly know, evaluate or advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, DuraClass has not undertaken any such broad evaluations. Accordingly, anyone who uses installation and service procedures or tools which are not recommended by DuraClass must first satisfy himself thoroughly that neither his safety nor the product safety will be jeopardized by the method he selects.

PARTS LIST

HPT 53-90 AND HPT 53-90-10 HOIST

The following is a list of parts you should have received with your hoist kit. This list does not include accessory items or controls other than standard.

				MODEL/QTY.					
PART NO.	PAGE NO.	ITEM NO.	DESCRIPTION	HPT 53-90-10 WITH PUMP/ VALVE	HPT 53-90-10 WITH SEPERATE PUMP AND VALVE	HPT 53-90-10 WITH DIRECT MOUNT PUMP	HPT 53-90 WITH PUMP/ VALVE	HPT 53-90 WITH SEPERATE PUMP AND VALVE	HPT 53-90 WITH DIRECT MOUNT PUMP
001-4433-	22	4	Cylinder	1	1	1	1	1	1
003-2614-	11	6	Bearing	4	4	4	4	4	4
004-1182-	10	4	Link	—	2	2	2	—	2
005-3460-	23	7	Hinge Assembly	1	1	1	1	1	1
005-3461-	23	4	Hinge Assembly	1	1	1	1	1	1
008-7231-	9	1	Drive Shaft	1	1	—	1	1	—
011-4049-	7	1	Bracket	1	1	—	1	1	—
013-4278-	11	11	Lever	2	2	2	2	2	2
013-4923-	10	7	Lever	—	1	1	1	—	1
@ 014-1553-	5	1	Pad - Mounting	—	—	—	2	2	2
015-1810-	22	6	Spacer	2	2	2	2	2	2
015-2711-	*		Spacer - Pipe	1	1	1	1	1	1
019-1280-	27	6	Spring	1	1	1	1	1	1
@ 020-1717-	17	1	Oil Tank	1	1	1	1	1	1
021-1866-	27	1	U-Bar	1	1	1	1	1	1
021-3366-	25	1	Stop	—	—	—	2	2	2
027-3687-	11	12	Rod	2	2	2	2	2	2
030-488-	9	2	U-Joint	1	—	—	1	—	—
030-529-	9	3	U-Joint	1	—	—	1	—	—
030-542-	9	3	U-Joint	—	1	—	1	—	—
030-543-	9	2	U-Joint	—	1	—	1	—	—
031-0989-	22	2	Vent Valve	1	1	1	1	1	1
031-2108-	10	1	Valve	—	1	1	—	1	1
032-0798-3	27	7	Yoke	1	—	—	1	—	—
032-1020-	11	13	Rod End	4	4	4	4	4	4
034-8956-	6	5	Plate	2	2	2	—	—	—
034-9394-	11	7	Plate	2	2	2	2	2	2
@ 037-6916-	*		Frame	—	—	—	1	1	1
047-1088-	9	4	Screw	3	3	—	3	3	—
047-2249-	29	5	Elevator Bolt 1/4-20NC X	1	1	1	1	1	1
048-2932-	22	8	Pin	1	1	1	1	1	1
048-3127-3	27	8	Pin	1	—	—	1	—	—
048-3127-4	10	5	Pin	—	2	2	-	2	2
048-3531-	22	5	Pin	1	1	1	1	1	1
048-4089-	23	3	Hinge Pin	2	2	2	2	2	2
048-5112-	*		Pin	2	2	2	2	2	2
053-1379-	11	4	Latch Assembly	3	3	3	3	3	3
054-3340-10	19	3	Elbow	—	1	1	1	—	1
054-3341-10	18	2	Connector	1	—	—	1	—	—
054-4307-10	19	7	Elbow	—	1	1	1	—	1
54-4731-	27	4	Tube	3	3	3	3	3	3
57-0426-36	18	6	Hose	1	1	—	1	1	—
057-0426-60	20	1	Hose 1-1/4	—	—	1	—	—	1

*As indicated in instructions.
@Shipped loose — not in kit box.

PARTS LIST (continued)

HPT 53-90 AND HPT 53-90-10 HOIST

				MODEL/QTY.					
PART NO.	PAGE NO.	ITEM NO.	DESCRIPTION	HPT 53-90-10 WITH PUMP/ VALVE	HPT 53-90-10 WITH SEPERATE PUMP AND VALVE	HPT 53-90-10 WITH DIRECT MOUNT PUMP	HPT 53-90 WITH PUMP/ VALVE	HPT 53-90 WITH SEPERATE PUMP AND VALVE	HPT 53-90 WITH DIRECT MOUNT PUMP
057-0714-1	19	4	Hose	—	1	1	—	1	1
057-1423-20	19	2	Hose	—	1	1	—	1	1
057-1846-40	19	5	Hose	—	1	—	—	1	—
057-1848-8	19	6	Hose Coupling	—	1	1	1	—	1
057-1848-9	18	4	Coupling - Hose 1" NPTF	1	—	—	1	—	—
057-1853-90	20	8	Hose - Pressure 3/4 Blank	—	—	1	—	—	1
057-1858-50	18	3	Hose	1	—	—	1	—	—
058-2468-4	18	10	Fitting	1	1	1	1	1	1
060-402-	17	2	Filler Cap	1	1	1	1	1	1
064-2158-	*		Body Guide	2	2	2	—	—	—
064-2339-	5	1	Guide	—	—	—	2	2	2
070-0765-	11	3	Handle	2	2	2	2	2	2
070-1230-	11	2	Handle - Black	1	1	1	1	1	1
070-1231-	11	1	Handle - Red	1	1	1	1	1	1
074-2216-4	18	7	Fitting	2	2	2	2	2	2
074-3059-7	18	11	Union	1	1	1	1	1	1
077-7396-	27	5	Support	2	2	2	2	2	2
077-9811-	*		Leg	2	2	2	2	2	2
080-1258-	*		Stop	2	2	2	2	2	2
097-198-	27	2	Wire Rope	1	1	1	1	1	1
097-199-	27	3	Clamp	1	1	1	1	1	1
108-1180-	28	8	Connector - Wire	3	4	4	3	3	3
108-3991-	30	1	Back-Up Alarm Kit	1	1	1	1	1	1
108-4571-	28	9	Terminal - Tab	4	4	4	4	4	4
108-4572-	29	12	Terminal Ring	1	1	1	1	1	1
111-8339-	*		Lock Bracket	1	1	1	1	1	1
111-8344-	6	1	Bracket	4	4	4	—	—	—
115-784-	28	5	Indicator	1	1	1	1	1	1
134-5483-	*		Plate - Hinge	—	—	—	1	1	1
134-5484-	23	1	Plate - Hinge	2	2	2	2	2	2
177-1293-	*		Stiffener Angle	2	2	2	—	—	—
211-1445-	4	1	Bracket	—	—	—	2	2	2
211-2191-	28	1	Bracket	2	2	2	1	1	1
211-3184-	29	1	Bracket	4	4	4	2	2	2
219-1479-	7	4	Pump & Valve	1	—	—	1	—	—
219-1742-	7	4	Pump	—	1	—	—	1	—
219-1842-	8	2	Pump - Direct Mount	—	—	1	—	—	1
@ 237-0051-	3	1	Frame Rear Hinge	—	—	—	1	1	1
@ 237-2566-	6	6	Frame - Hoist	1	1	1	—	—	—
237-3530-	*		Rear Hinge Assembly	—	—	—	1	1	1
254-3431-	29	2	Switch	1	1	1	1	1	1
263-0042-	9	6	16 Ga. Soft Wire X 24	1	1	—	1	1	—
263-68-144	28	6	Wire - Black	1	1	1	1	1	1
263-68-6	29	3	Wire - Black	1	1	1	1	1	1
263-69-60	28	7	Wire - Red	1	1	1	1	1	1
272-2362-	30	4	Back-Up Alarm Kit	1	1	1	1	1	1

*As indicated in instructions.

@Shipped loose — not in kit box.

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HPT 53-90 AND HPT 53-90-10 HOIST

				MODEL/QTY.					
PART NO.	PAGE NO.	ITEM NO.	DESCRIPTION	HPT 53-90-10 WITH PUMP/ VALVE	HPT 53-90-10 WITH SEPERATE PUMP AND VALVE	HPT 53-90-10 WITH DIRECT MOUNT PUMP	HPT 53-90 WITH PUMP/ VALVE	HPT 53-90 WITH SEPERATE PUMP AND VALVE	HPT 53-90 WITH DIRECT MOUNT PUMP
272-2739-	*		Kit - Hoist	1	1	1	1	1	1
272-3094-	28	*	Body Raised Indicator Kit	1	1	1	1	1	1
272-3504-	*		Drive Line Kit	1	—	—	1	—	—
272-3630-	28	*	Back-Up Alarm/Body Raised Indicator Kit	1	1	1	1	1	1
272-3654-	*		Complete Mounting Kit HPT 53	—	—	—	1	1	1
272-3656-	*		Drive Kit	—	1	—	—	1	—
272-3896-	*		Hydraulic Kit Direct Mount	—	1	—	1	—	—
FS-070-720	*		Cpscrw-Hex Hd GR51/4-20 NC x 1	4	4	4	4	4	4
FS-070-924	*		Capscrew - Hex Head GR5 3/8-16 NC x 1-1/2	2	2	2	2	2	2
FS-070-930	*		Cpscrw-Hex Hd GR5 5/8-11NC x 2	2	2	2	2	2	2
FS-071-124	*		Capscrew - Hex Head GR5 1/2-13 NC x 1-1/2	4	4	—	4	4	—
FS-071-124	*		Capscrew - Hex Head GR5 1/2-13 NC x 1-1/2	—	—	6	—	—	6
FS-071-140	*		Cpscrw-Hex Hd GR51/2-13 NC x 3	2	5	5	2	5	5
FS-071-324	*		Capscrew - Hex Head GR5 5/8-11NC x 1-1/2	—	2	—	2	—	—
FS-071-330	*		Cpscrw-Hex Hd GR5 5/8-11NC x2	26	20	20	14	8	8
FS-079-415	*		Screw-Mach Hex Hd # 10-24NC x 3/4	3	3	3	3	3	3
FS-190-400	*		Fitting - Grease 1/8 NiPT Straight	3	2	2	5	4	4
FS-190-490	*		Fitting- Grease 1/8 NPT x 90 Deg.	1	1	1	1	1	1
FS-230-700	*		Nut - Lock Hex Nylock 1/4-20NC	4	4	4	4	4	4
FS-230-900	*		Nut - Lock Hex Nylok 3/8-16NC	4	4	9	6	2	9
FS-231-100	*		Nut - Lock Hex Nylock 1/2-13NC	6	9	9	13	2	9
FS-231-301	*		Nut-Lock Hex Stovers 5/8 - 11NC	26	27	20	14	15	8
FS-240-800	*		Nut - Lock Hex Nylock 5/16	1	1	1	1	1	1
FS-280-400	*		Mach Nut #10-24NC	6	6	6	3	3	3
FS-280-700	*		Hex Nut 1/4-20NC PL	4	4	4	2	2	2
FS-292-100	*		Nut - Jam Hex 1/2-13NC	4	4	4	4	4	4
FS-340-212	*		Pin - Cotter 3/32 x 3/4	5	8	6	9	4	6
FS-340-950	*		Pin - Cotter 3/8 x 4	2	2	2	2	2	2
FS-390-408	*		Screw - Drive #7 x 5/16	4	4	4	—	—	—
FS-510-700	*		Washer - Flat 1/4	8	8	8	8	8	8
FS-510-900	*		Washer - Flat 3/8	6	6	6	6	6	6
FS-511-100	*		Washer - Flat 1/2	4	6	6	4	6	6
FS-513-000	*		Washer - Flat 2"	2	2	2	2	2	2
FS-541-300	*		Washer - Lock 5/8	2	2	2	2	2	2
FS-550-400	*		#10 Lock Washer	6	6	6	3	3	3
FS-592-220	*		Bushing - Pipe Blk Mi 1-1/4 x 1	1	—	—	1	—	—
FS-592-422	*		Bushing - Pipe Blk Mi 1-1/2	—	1	—	1	—	—
FS-822-000	*		Elbow - Street 90 Deg. 1"	—	—	2	—	—	2
FS-822-200	*		Elbow - Street 90 Deg. 1-1/4x 90 Deg	1	2	—	3	—	—
902-001	*		Plug - Pipe Sq. Head Blk. 1"	1	—	—	1	—	—
FS-902-200	*		1-1/4 NPT Sq. Hd. Pipe Plug	1	1	1	1	1	1

*As indicated in instructions.
@Shipped loose — not in kit box.

BASIC DIMENSIONS

Basic dimensions for the HPT53-90 and HPT53-90-10 hoists are shown in figures 1 and 2 respectively.

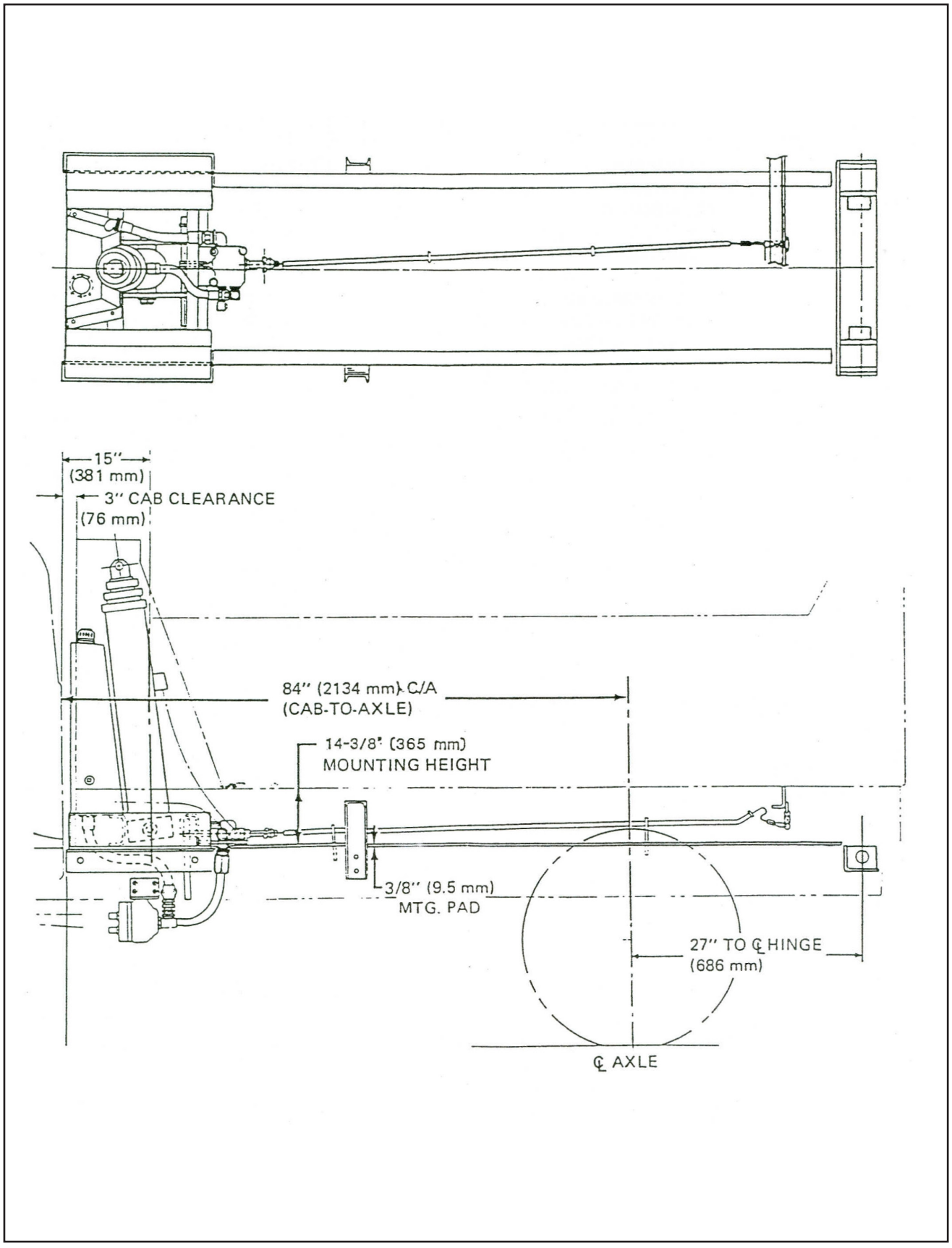


Figure 1- HPT53-90 Hoist Basic Dimensions

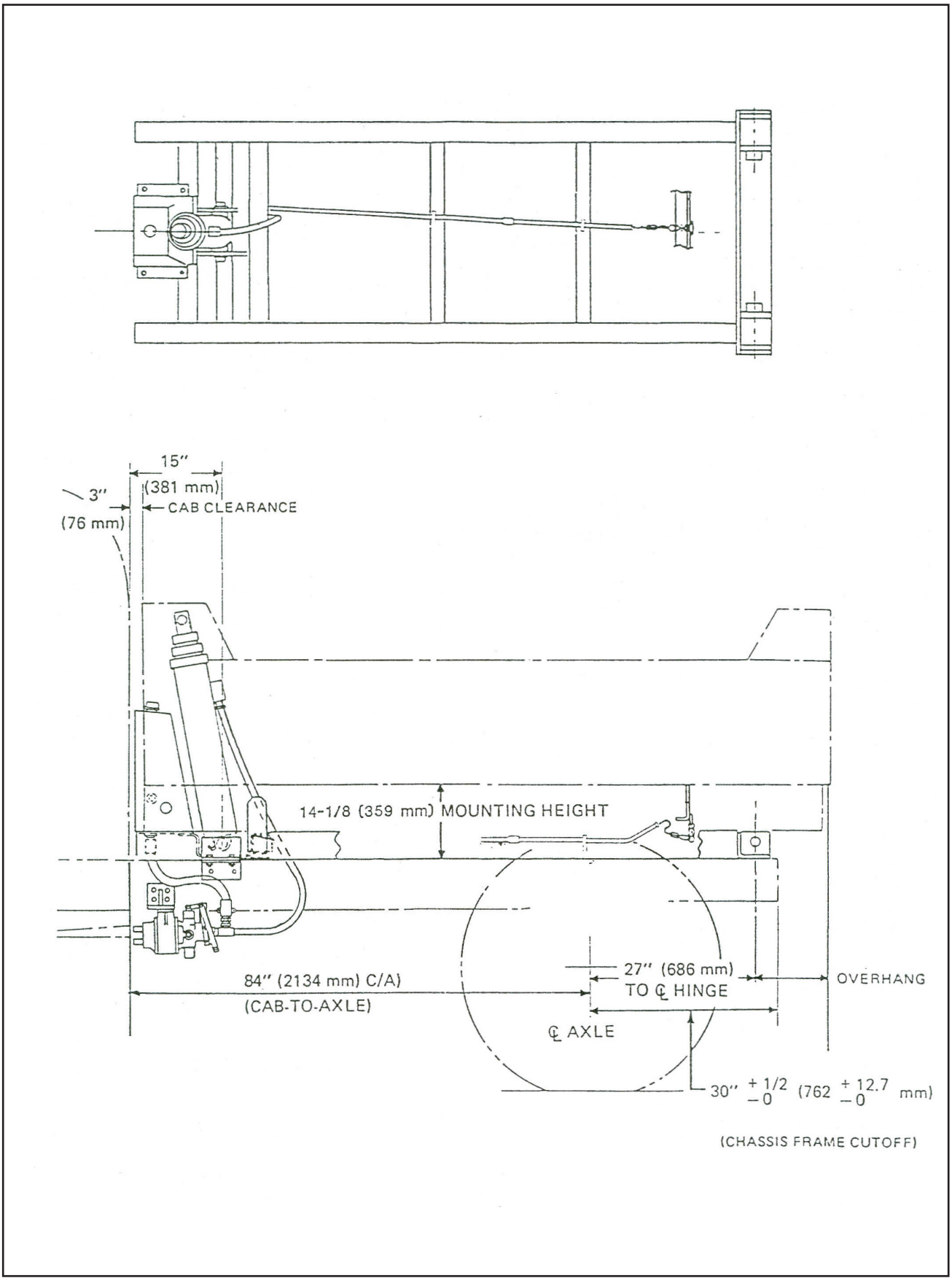


Figure 2- HPT53-90-10 Hoist Basic Dimensions

REAR HINGE FRAME (HPT53-90)

Cut off and contour end of chassis frame to the dimensions shown in figure 3. Refer to figure 1 to determine the rear hinge center line location for your hoist.

WELD NOTE

ALL WELDING DONE IN THE MOUNTING OF THE HOIST AND BODY SHOULD BE PERFORMED USING ONLY THE FOLLOWING RECOMMENDED WELD ELECTRODE AND WIRE.

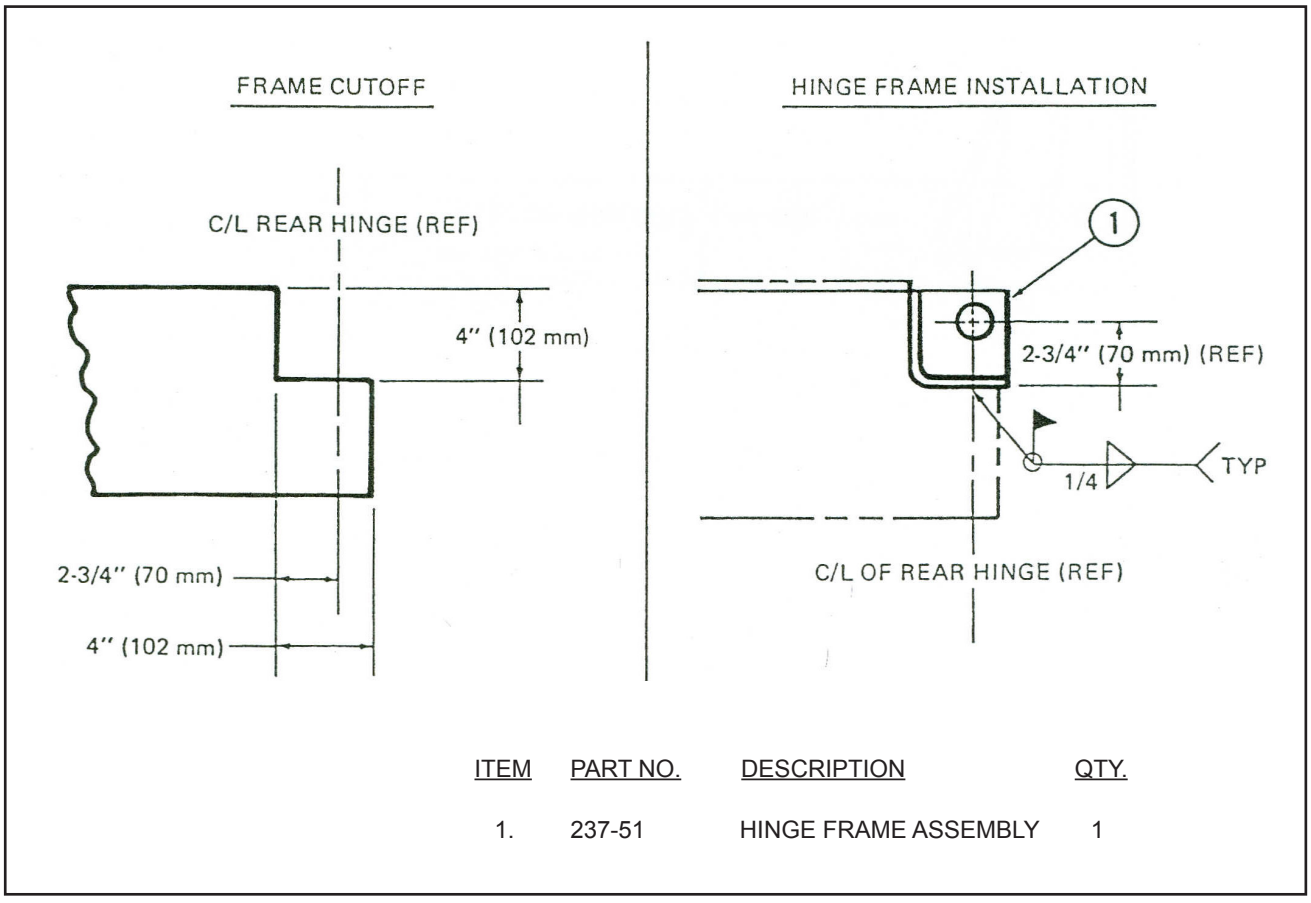
ELECTRODE — E-7018 (THIS IS A LOW HYDROGEN ROD, AND MANUFACTURER'S RECOMMENDATIONS MUST BE FOLLOWED.)

WIRE — E-70S-3 (WIRE MANUFACTURER'S RECOMMENDATIONS MUST BE FOLLOWED.)
Square and center hinge frame to chassis long rails and clamp frame in place.

NOTE

It is more important to have the holes for the hinge shaft in line and square with the chassis frame than to hold the locating dimensions exact.

Weld hinge frame to truck chassis long rails as shown in figure 3. Remove clamps. Cut off ends of chassis long rails, if necessary.



ITEM	PART NO.	DESCRIPTION	QTY.
1.	237-51	HINGE FRAME ASSEMBLY	1

Figure 3. Frame Cutoff And Hinge Frame

CYLINDER SUPPORT FRAME AND TIE DOWNS (HPT53-90)

Place cylinder support frame back of cab as shown in figure 4 so it fits squarely on the chassis. It may be necessary to drill holes in base of support frame to clear rivet heads. Clamp support frame to chassis rail temporarily. Tack weld frame tie downs to support frame. Drill four 41/64” (16 mm) holes in chassis rail using holes in tie downs as a template. Bolt tie downs to chassis rail. Weld frame tie downs to support frame, three sides as shown. NOTE: DO NOT weld to chassis frame. Remove clamps. See figure 5.

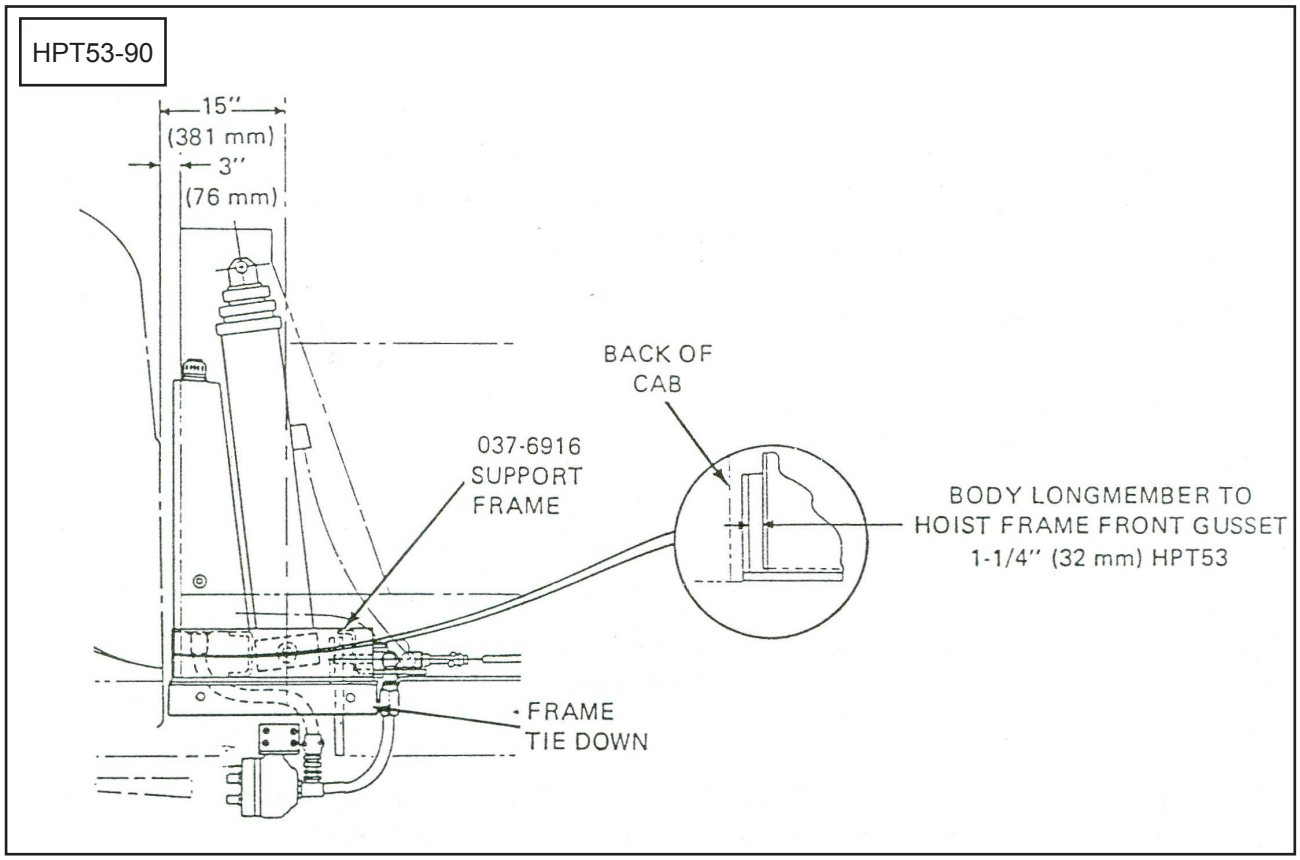
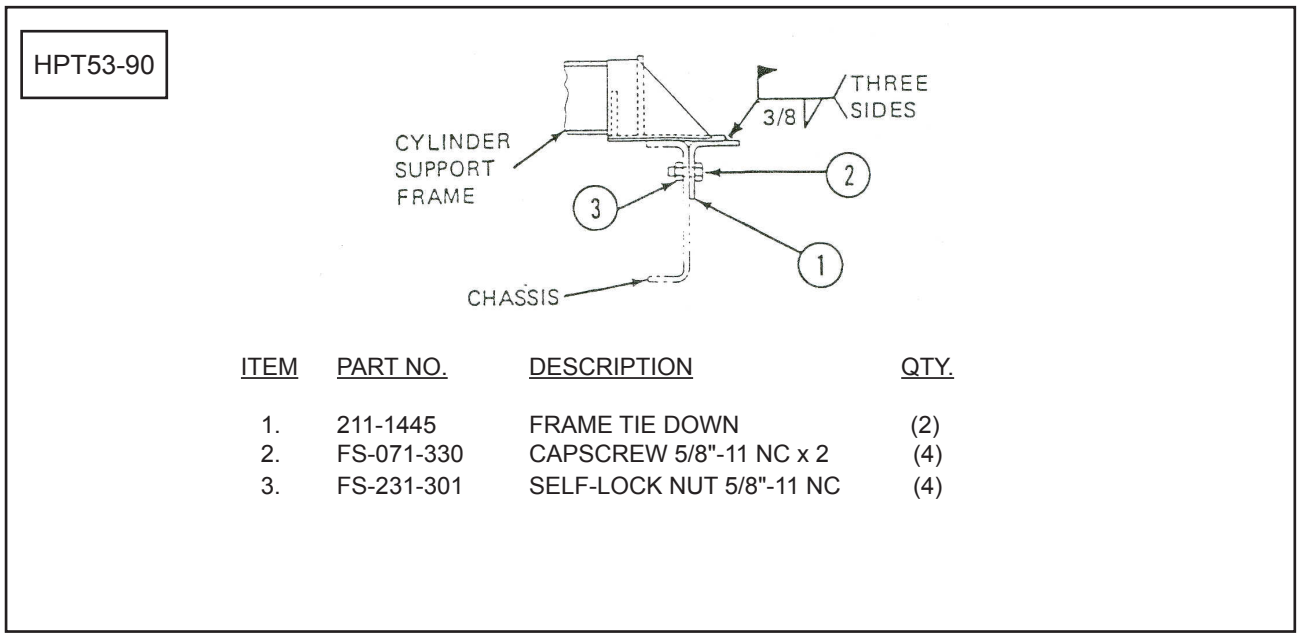


Figure 4. Cylinder Support Frame

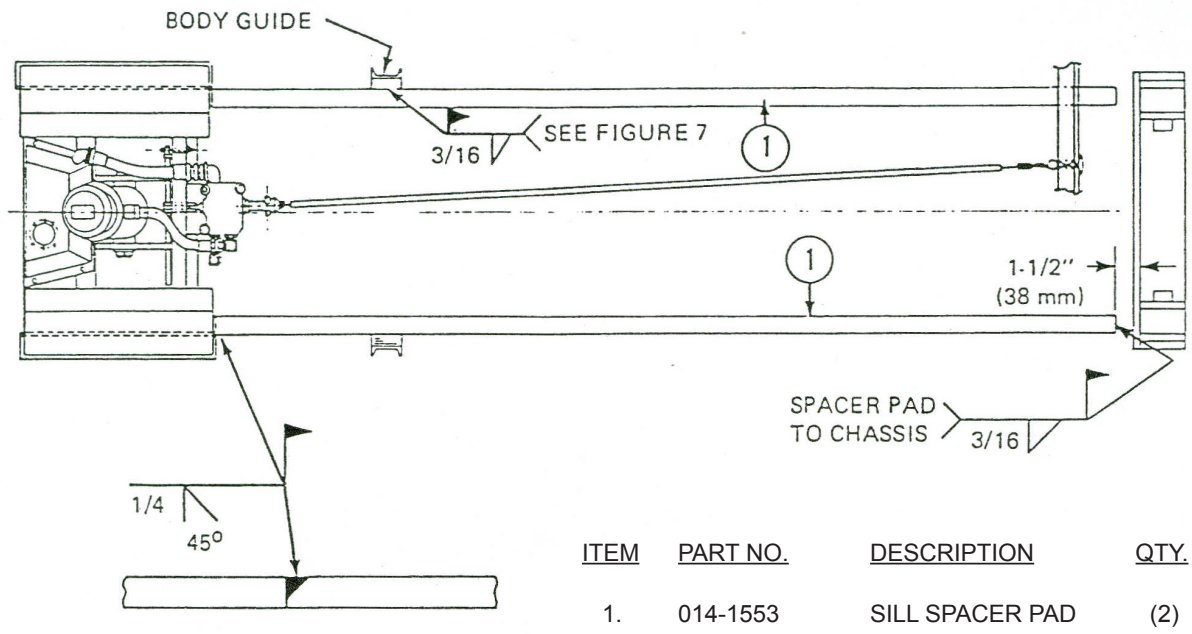


ITEM	PART NO.	DESCRIPTION	QTY.
1.	211-1445	FRAME TIE DOWN	(2)
2.	FS-071-330	CAPSCREW 5/8"-11 NC x 2	(4)
3.	FS-231-301	SELF-LOCK NUT 5/8"-11 NC	(4)

Figure 5. Frame Tie Downs

SILL SPACER PADS (HPT53-90)

Cut sill spacer pads to length and locate as shown in figure 6. Drill holes to clear rivet heads if necessary. Chamfer front end of pad and weld pad to cylinder support frame at front and to chassis frame at rear.

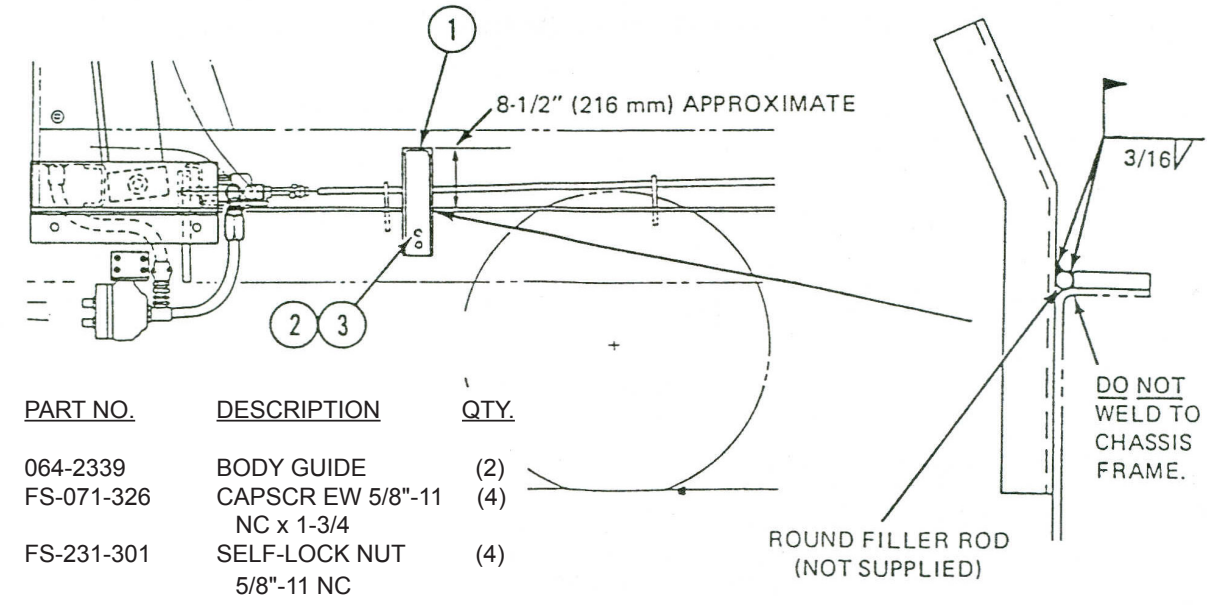


ITEM	PART NO.	DESCRIPTION	QTY.
1.	014-1553	SILL SPACER PAD	(2)

Figure 6. Sill Spacer Pads

BODY GUIDES (HPT53-90)

Position body guides to clear body crossmembers. Drill four 41/64" (16 mm) holes in chassis rail, using holes in body guide as template. Bolt body guides in place, and weld to sill spacer as shown in figure 7. Use a short piece of round rod (not supplied in kit) as a filler.



ITEM	PART NO.	DESCRIPTION	QTY.
1.	064-2339	BODY GUIDE	(2)
2.	FS-071-326	CAPSCR EW 5/8"-11 NC x 1-3/4	(4)
3.	FS-231-301	SELF-LOCK NUT 5/8"-11 NC	(4)

Figure 7. Body Guides

WELD NOTE

ALL WELDING DONE IN THE MOUNTING OF THE HOIST AND BODY SHOULD BE PERFORMED USING ONLY THE FOLLOWING RECOMMENDED WELD ELECTRODE AND WIRE.

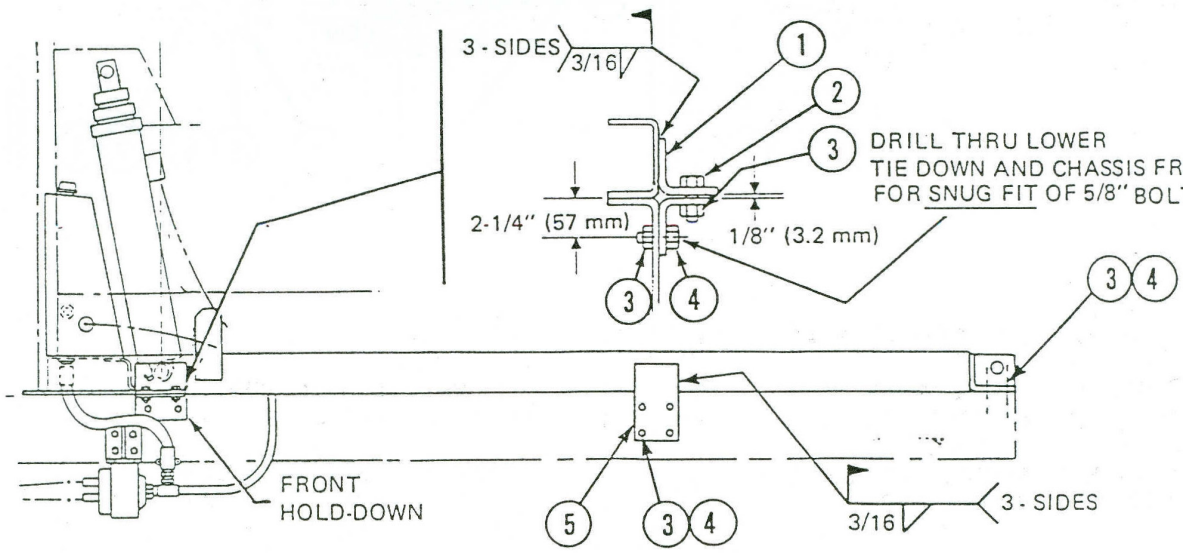
ELECTRODE — E-7018 (THIS IS A LOW HYDROGEN ROD, AND MANUFACTURER'S RECOMMENDATIONS MUST BE FOLLOWED.)

WIRE — E-70S-3 (WIRE MANUFACTURER'S RECOMMENDATIONS MUST BE FOLLOWED.)

Locate hoist frame assembly so that it is square on the chassis and that the hinge centerline is properly located back of the axle (see figure 8). Drill four 33/64" (13.1 mm) holes at rear through top of chassis rail to match holes in rear hinge frame. Bolt frame to chassis.

Locate front hold-downs approximately in line with lower cylinder pin as shown in figure 8. Weld upper hold-downs to hoist frame as noted and drill four 41/64" (16.3 mm) holes through chassis rails using lower hold-downs as guides. Bolt lower hold-downs to chassis rail and bolt upper and lower hold-downs together.

Locate intermediate hold-downs and weld to hoist frame as shown in figure 8. Drill eight 41/64" (16.3 mm) holes through chassis rails using holes in hold-downs as guides. Bolt hold-downs to chassis frame.



ITEM	PART NO.	DESCRIPTION	QTY.
1.	111-8344	FRAME HOLD-DOWN	(4)
2.	FS-071-330	HEX HD CAPSCREW 5/8"-11 NC x 2'	(4)
3.	FS-231-301	SELF LOCK NUT 5/8"-11 NC	(20)
4.	FS-071-330	HEX HD CAPSCREW 5/8"-1 1 NC x 2'	(16)
5.	034-8956	HOLD-DOWN	(2)
6.	237-2566	HOIST FRAME	(1)

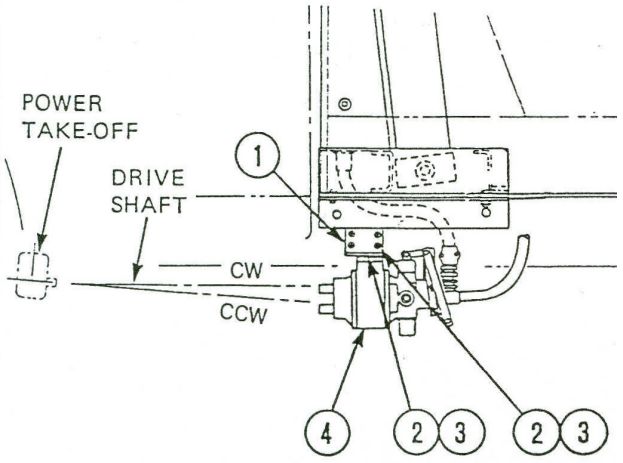
Figure 8. Frame Hold-Downs

POWER TAKE-OFF AND PUMP

Select the correct Power Take-Off to match truck transmission. The PTO output shaft speed should range from 1500 rpm to a maximum of 2000 rpm to provide satisfactory hoist performance. Mount PTO according to manufacturer's recommendation.

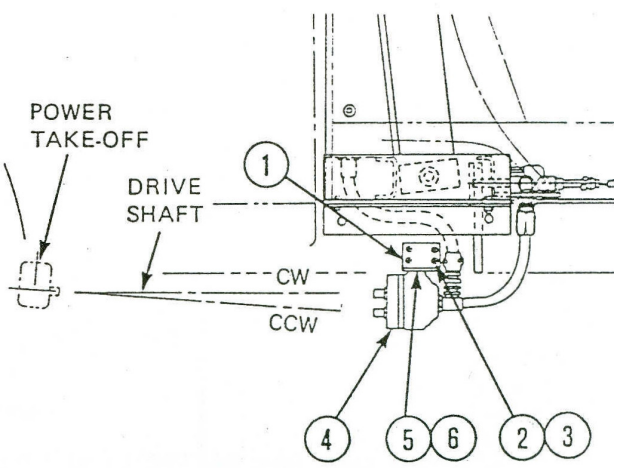
Mount pump in a convenient location in the chassis so that it and connecting hoses are as far away from the muffler and exhaust tube as possible, and so that the drive line is as short as possible. In any case the centerline to centerline of universal joints is not to exceed 44-1/2" (1130 mm). Refer to figure 10. Drill four 41/64" (16.3 mm) holes in chassis rail to mount pump bracket using bracket as template. Bolt bracket and pump in place. See figure 9.

FOR 219-1479 PUMP/VALVE



ITEM	PART NO.	DESCRIPTION	QTY.
1.	011-4049	PUMP BRACKET	(1)
2.	FS-071-330	CAPSCR EW 5/8"-11 NC x 2'	(6)
3.	FS-231-301	SELF-LOCK NUT 5/8"-11	(6)
4.	219-1479	PUMP/VALVE	(1)

FOR 219-1742 PUMP



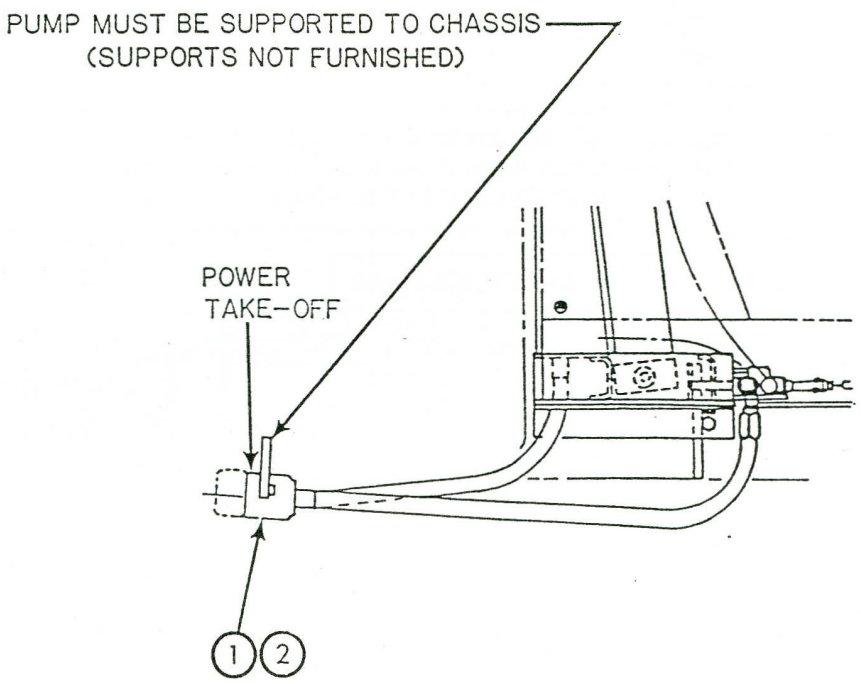
ITEM	PART NO.	DESCRIPTION	QTY.
1.	011-4049	PUMP BRACKET	(1)
2.	FS-071-330	CAPSCR EW 5/8"-11 NC x 2'	(4)
3.	FS-231-301	SELF-LOCK NUT 5/8"-11	(4)
4.	219-1742	PUMP	(1)
5.	FS-071-324	CAPSCR EW 5/8"-11 NC x 1-1/2'	(2)
6.	FS-541-300	LOCK WASHER 5/8"	(2)

Figure 9. Power Take-Off And Pump

POWER TAKE-OFF AND DIRECT MOUNT PUMP

Select the correct Power Take—Off to match truck transmission. The PTO output shaft speed should range from 1500 rpm to a maximum of 2000 rpm to provide satisfactory hoist performance. Mount PTO according to manufacturer's recommendation.

FOR DIRECT MOUNT PUMP



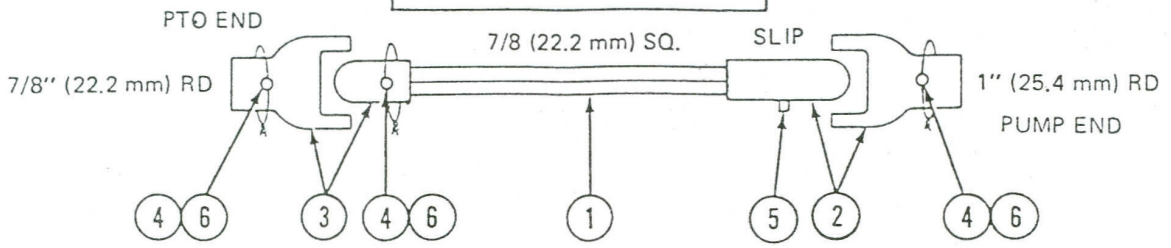
ITEM	PART NO.	DESCRIPTION	QTY.
1.	FS-071 — 124	CAPSCREW 1/2-13NC X1-1/2	(4)
2.	219-1842	PUMP—DIRECT MT.	(1)

FIGURE 9A. POWER TAKE—OFF AND DIRECT MOUNT PUMP.

DRIVE LINE

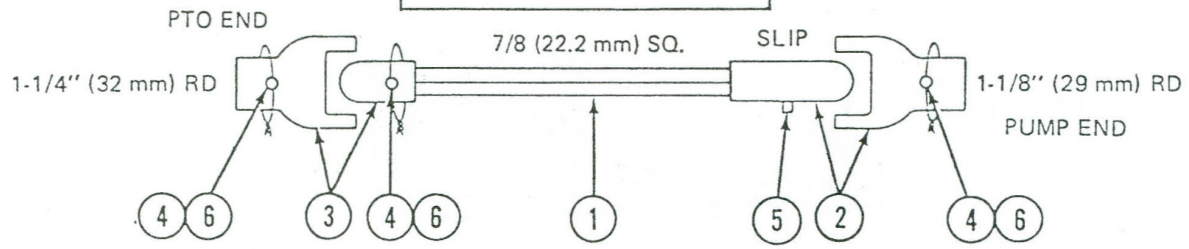
Cut drive shaft to the proper length to have maximum engagement in universal joints. Hand grease end of drive shaft and slip joint and install drive line. Install set screws and lock wire each, and install grease fitting in slip joint. See figure 10 for installation recommendations.

DRIVE SHAFT KIT K252-9480



ITEM	PART NO.	DESCRIPTION	QTY.
1.	008-7231	DRIVE SHAFT	(1)
2.	030-488	SLIP U-JOINT	(1)
3.	030-529	PTO U-JOINT	(1)
4.	047-1088	SET SCREW	(3)
5.	FS-190-400	GREASE FITTING 1/8" STR.	(1)
6.	263-41	16 GA. WIRE X 24" (CUT TO SUIT TO LOCK SET SCREWS)	(1)

DRIVE SHAFT KIT K252-9488



ITEM	PART NO.	DESCRIPTION	QTY.
1.	008-7231	DRIVE SHAFT	(1)
2.	030-543	SLIP U-JOINT	(1)
3.	030-542	PTO U-JOINT	(1)
4.	047-1088	SET SCREW	(3)
5.	FS-190-400	GREASE FITTING 1/8" STR.	(1)
6.	263-41	16 GA. WIRE X 24" (CUT TO SUIT TO LOCK SET SCREWS)	(1)

NOTE: End yokes must be in line as shown.

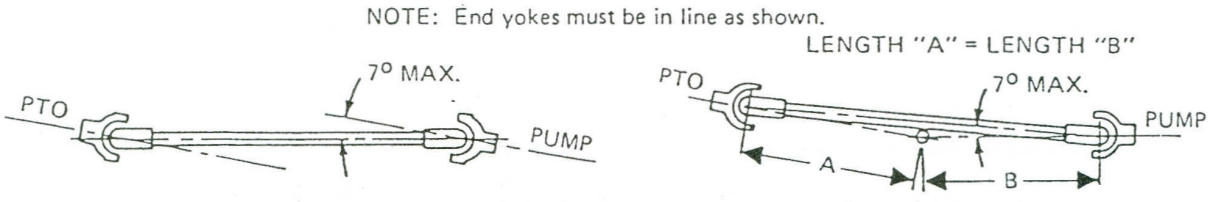


Figure 10. Drive Line

CONTROL VALVE AND CONTROLS

Lever controls to valve and PTO are standard and should be mounted on the floor of the cab in a position convenient for the operator (see figure 12).

If optional hydraulic kit is ordered with separate pump and control valve, bolt control valve to cylinder support frame as shown in figure 11 and connect valve spool to lever on valve control shaft with links and pins furnished. Weld control lever (item #7) to valve control shaft (lever to hang vertically downwards) on both sides for full contact area.

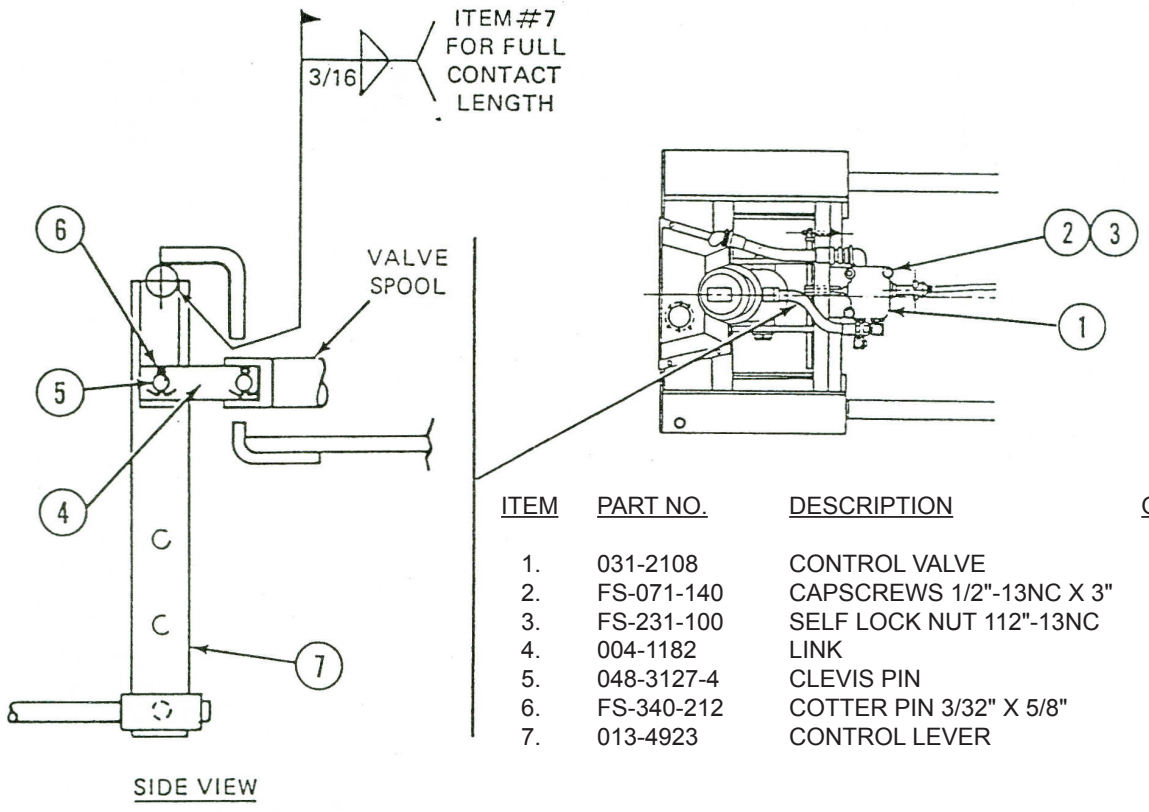
The recommended arrangement for the cab control lever operation is as follows:

Hoist — Movement rearward — RAISE
Movement forward — LOWER
Center Position — HOLD (NEUTRAL)

PTO — Movement rearward — ENGAGE
Movement forward — DISENGAGE

Install valve rod and PTO rod. Position them on the control levers so there is at least 6” (152 mm) of movement on cab levers.

Optional lever and console controls should be installed as shown in figure 12A, B, C or D.



ITEM	PART NO.	DESCRIPTION	QTY.
1.	031-2108	CONTROL VALVE	(1)
2.	FS-071-140	CAPSCREWS 1/2"-13NC X 3"	(3)
3.	FS-231-100	SELF LOCK NUT 112"-13NC	(3)
4.	004-1182	LINK	(2)
5.	048-3127-4	CLEVIS PIN	(2)
6.	FS-340-212	COTTER PIN 3/32" X 5/8"	(2)
7.	013-4923	CONTROL LEVER	(1)

Figure 11. Optional Control Valve

ITEM	PART NO.	DESCRIPTION	QTY.
1.	070-1231	HANDLE - PTO (RED)	(1)
2.	070-1230	HANDLE - HOIST (BLACK)	(1)
3.	070-765	HANDLE	(2)
4.	053.1379	LATCH	(1)
5.	111-8339	BRACKET	(1)
6.	003-2614	BEARING	(4)
7.	034-9394	PLATE	(2)
8.	FS-070-720	CAPSCREW 1/4"-20NC X1	(4)
9.	FS-230-700	SELF-LOCK NUT 1/4"-20NC	(4)
10.	FS-510-700	FLAT WASHER 1/4"	(4)
11.	013-4278	LEVER	(2)
12.	027-3687	ROD	(2)
13.	032-1020	ROD END	(4)
14.	FS-340-212	COTTER PIN 3/32" X 3/4	(4)
15.	FS-291-100	JAM NUT 1/2"-13NC	(4)
16.	FS-510-900	FLAT WASHER 3/8"	(4)
17.	FS-070-924	HEX. HD. CAPSCREW 3/8"-16NC X 1-1/2	(2)
18.	FS-230-900	LOCK NUT 3/8"-16NC	(2)
19.	FS-510-900	FLAT WASH ER 3/8"	(2)

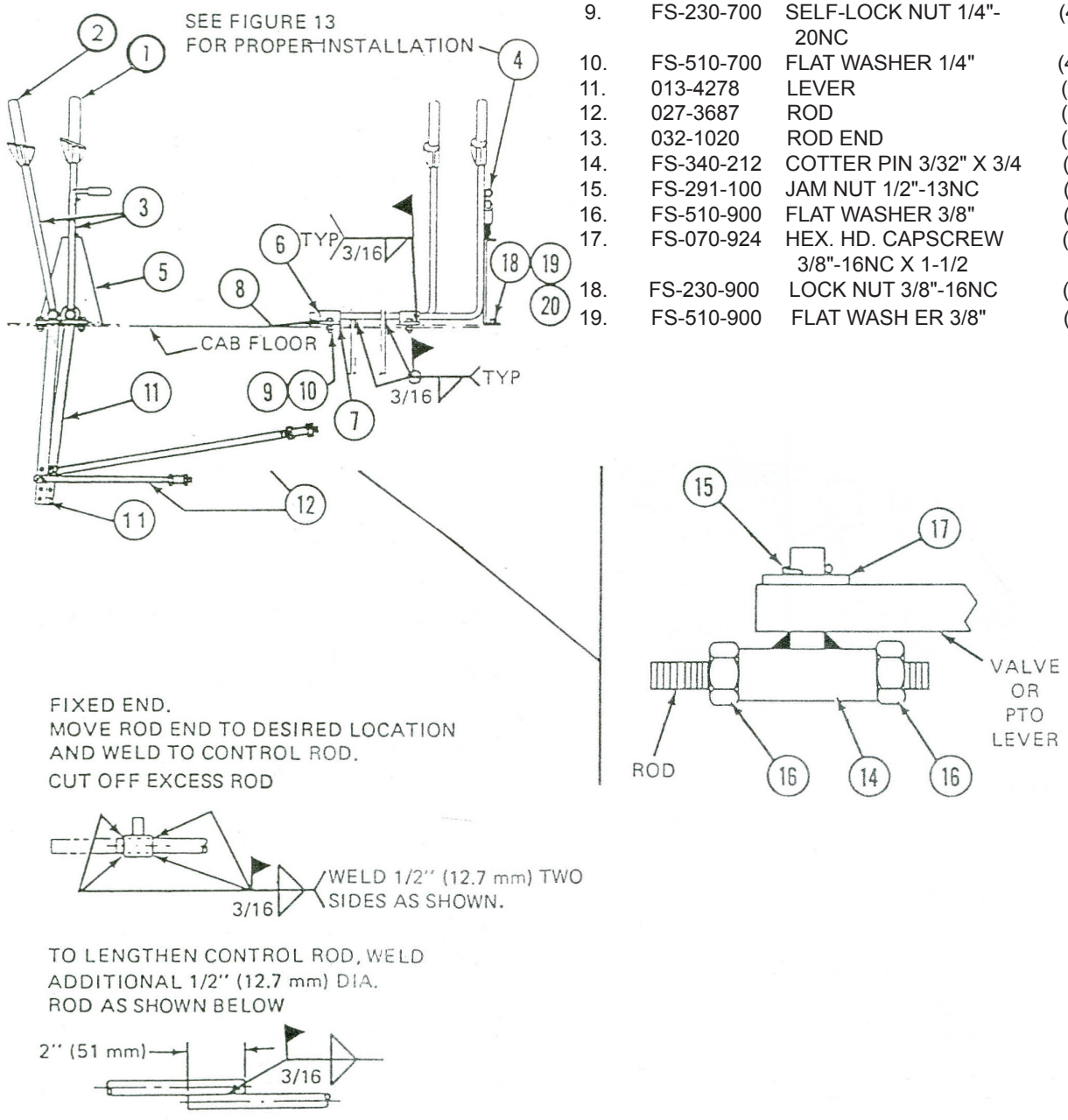
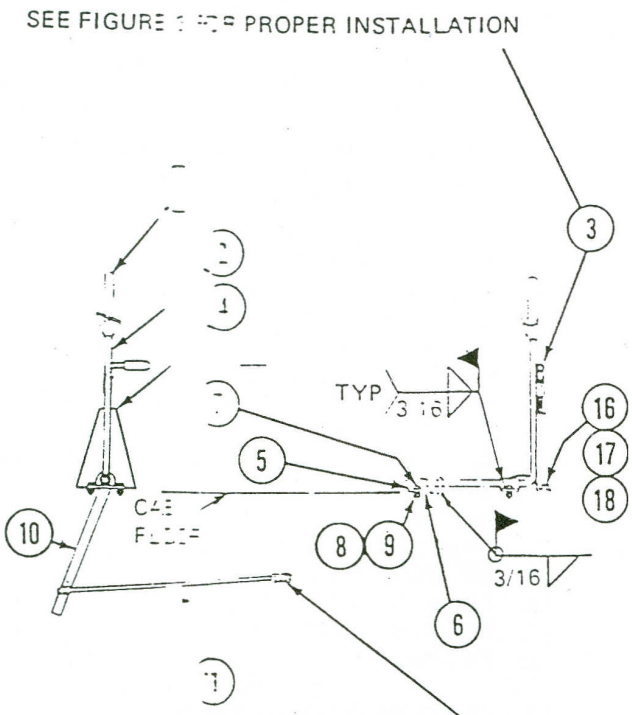
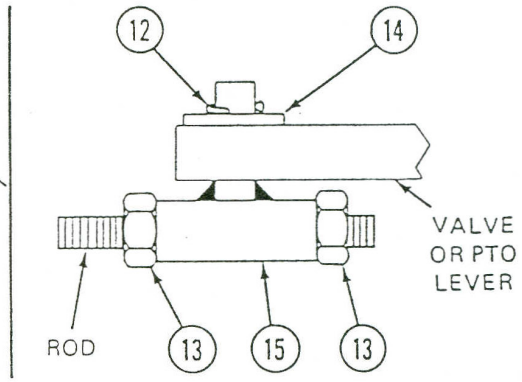


Figure 12. 252-3733 Two Lever Control (Round)

ITEM	PART NO.	DESCRIPTION	QTY.
1.	070-1230	HANDLE - HOIST (BLACK)	(1)
2.	070-765	HANDLE	(1)
3.	053-1379	LATCH	(1)
4.	111-8339	BRACKET	(1)
5.	003-2614	BEARING	(2)
6.	034-9394	PLATE	(2)
7.	FS-070-720	CAPSCREW 1/4"-20NC X 1	(2)
8.	FS-230-700	SELF-LOCK NUT 1/4"-20NC	(4)
9.	FS-510-700	FLAT WASHER 1/4"	(4)
10.	013-1478	LEVER	(1)
11.	027-3687	ROD	(2)
12.	FS-340-212	COTTER PIN 3/32" X 3/4	(2)
13.	FS-291-100	JAM NUT 1/2"-13NC	(2)
14.	FS-510-900	FLAT WASHER 3/8"	(2)
15.	032-1020	ROD END	(2)
16.	FS-070-924	HEX. HD. CAPSCREW 3/8"-16NC X 1-1/2	(2)
17.	FS-230-900	SELF-LOCK NUT 3/8"-16NC	(2)
18.	FS-510-900	FLAT WASH ER 3/8"	(2)





FIXED END.
MOVE ROD END TO DESIRED LOCATION AND WELD TO CONTROL ROD.
CUT OFF EXCESS ROD.

TO LENGTHEN CONTROL ROD, WELD ADDITIONAL 1/2" (12.7 mm) DIA. ROD AS SHOWN BELOW.

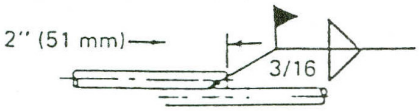
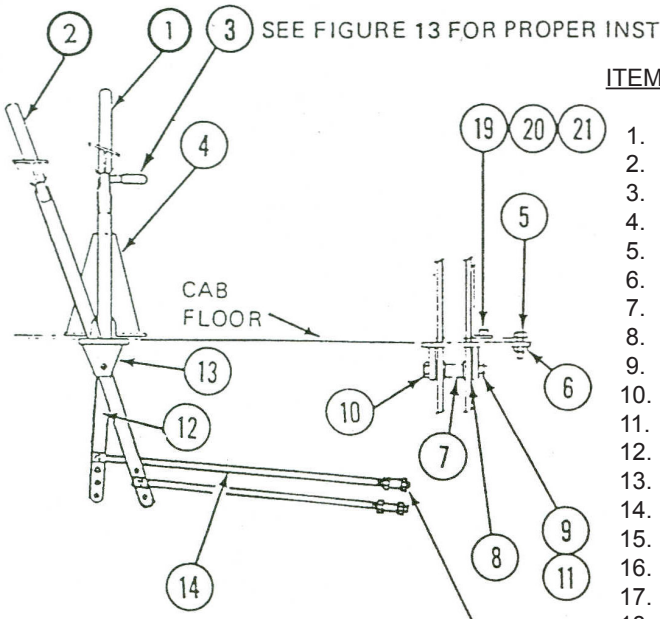
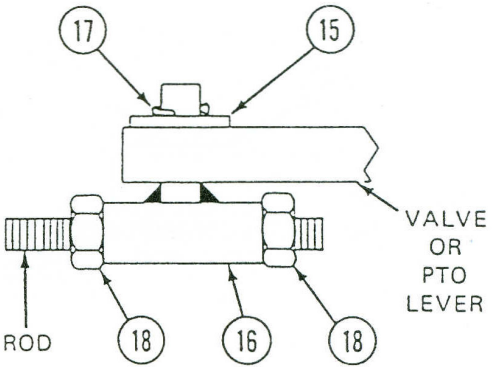


Figure 12A. 254-1118 Single Lever Control (Round)



ITEM	PART NO.	DESCRIPTION	QTY.
1.	070-1230	HANDLE - HOIST (BLACK)	(1)
2.	070-1231	HANDLE - PTO (RED)	(1)
3.	053-1379	LATCH	(1)
4.	111-8339	BRACKET	(1)
5.	FS-070-920	CAPSCREW 3/8"-16NC X 1	(2)
6.	FS-230-900	LOCK NUT 3/8"-16NC	(2)
7.	015-1475	SPACER	(1)
8.	FS-511-100	FLAT WASHER 1/2"	(4)
9.	FS-541-100	LOCKWASHER 1/2"	(1)
10.	FS-071-150	CAPSCREW 1/2"-13NC X 4	(1)
11.	FS-231-100	HEX NUT 1/2"-13NC	(1)
12.	013-4870	LEVER	(2)
13.	011-4702	BRACKET	(1)
14.	027-3687	ROD	(2)
15.	FS-510-900	FLAT WASHER 3/8"	(4)
16.	032-1020	ROD END	(4)
17.	FS-340-212	COTTER PIN 3/32" X 3/4	(4)
18.	FS-291-100	JAM NUT 1/2"-13NC	(4)
19.	FS-070-924	HEX. HD. CAPSCREW 3/8"-16NC X 1-1/2	(2)
20.	FS-230-900	LOCK NUT 3/8"-16NC	(2)
21.	FS-510-900	FLAT WASHER 3/8"	(2)



FIXED END.
MOVE ROD END TO DESIRED LOCATION AND WELD TO CONTROL ROD.
CUT OFF EXCESS ROD.

TO LENGTHEN CONTROL ROD, WELD ADDITIONAL 1/2" (12.7 mm) DIA. ROD AS SHOWN BELOW.

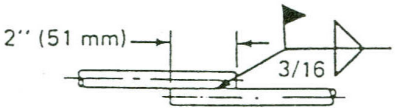


Figure 12B. 252-9407 Two Lever Control (Flat)

ITEM	PART NO.	DESCRIPTION	QTY.
1.	070-1230	HANDLE - HOIST (BLACK)	(1)
2.	053-1379	LATCH	(1)
3.	111-8339	BRACKET	(1)
4.	FS-070-920	CAPSCREW 3/8"-16NC X 1	(2)
5.	FS-230-900	LOCK NUT 3/8"-16NC	(2)
6.	003-2495	BUSHING	(1)
7.	FS-510-900	FLAT WASHER 3/8"	(1)
8.	FS-070-922	CAPSCREW 3/8"-16NC X 1-1/4	(1)
9.	FS-230-900	LOCK NUT 3/8"-16NC	(1)
10.	013-4870	LEVER	(1)
11.	011-9080	BRACKET	(1)
12.	027-3687	ROD	(1)
13.	032-1020	ROD END	(4)
14.	FS-340-212	COTTER PIN 3/32" X 3/4	(4)
15.	FS-291-100	JAM NUT 1/2"-13NC	(4)
16.	FS-510-900	FLAT WASHER 3/8"	(4)
17.	FS-070-924	HEX. HD. CAPSCREW 3/8"-16NC X 1.1/2	(2)
18.	FS-230-900	LOCK NUT 3/8"-16NC	(2)
19.	FS-510-900	FLAT WASHER 3/8"	(2)

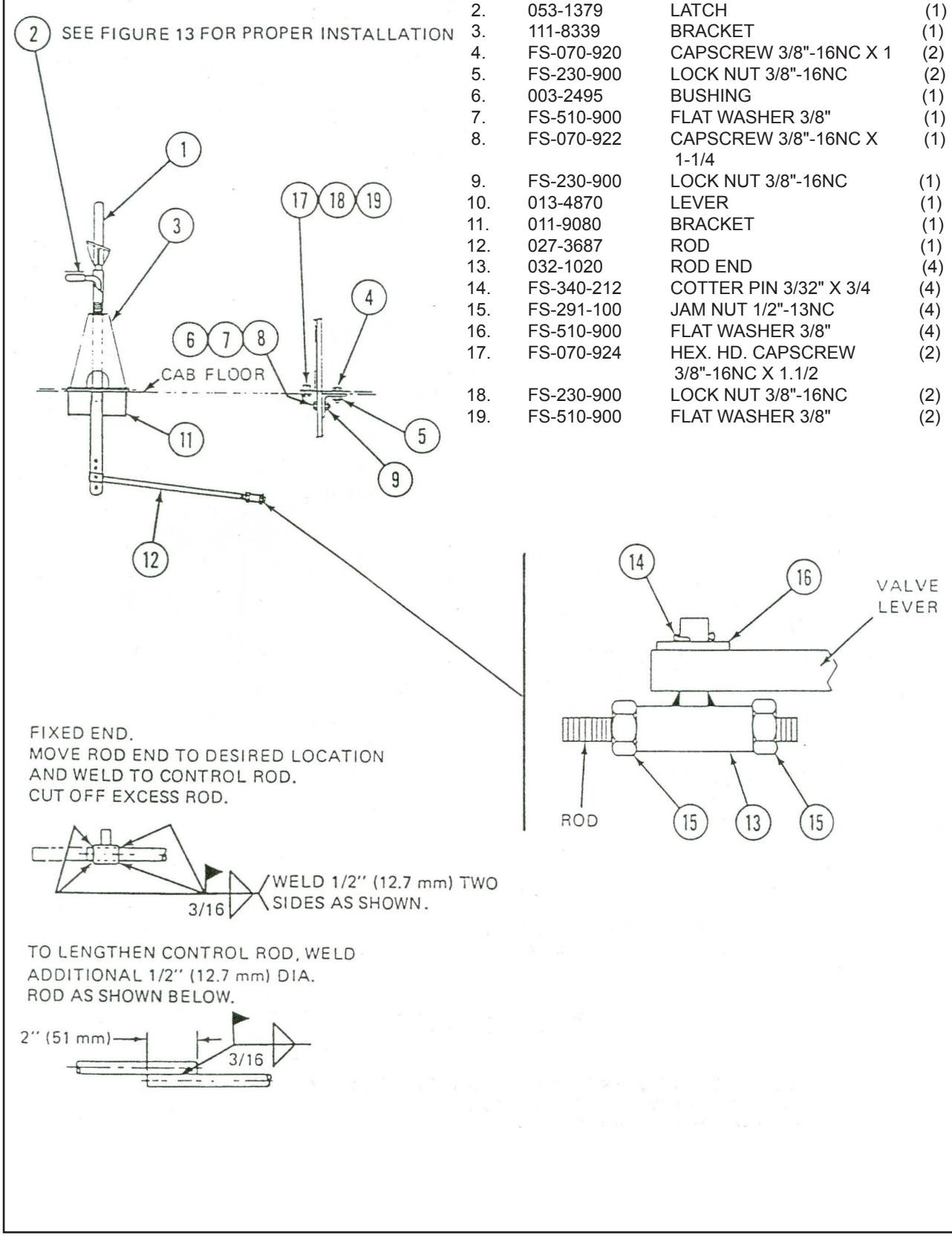


Figure 12C. 254-710 Single Lever Control (Flat)

DUAL CABLE CONTROL (Optional)

Install cables inside control console and then mount console on the cab floor in a position convenient for the operator.

Install PTO adapter and hoist connector kits as shown in figure 12D. Connect cables to PTO and hoist levers. Secure with cotter pins.

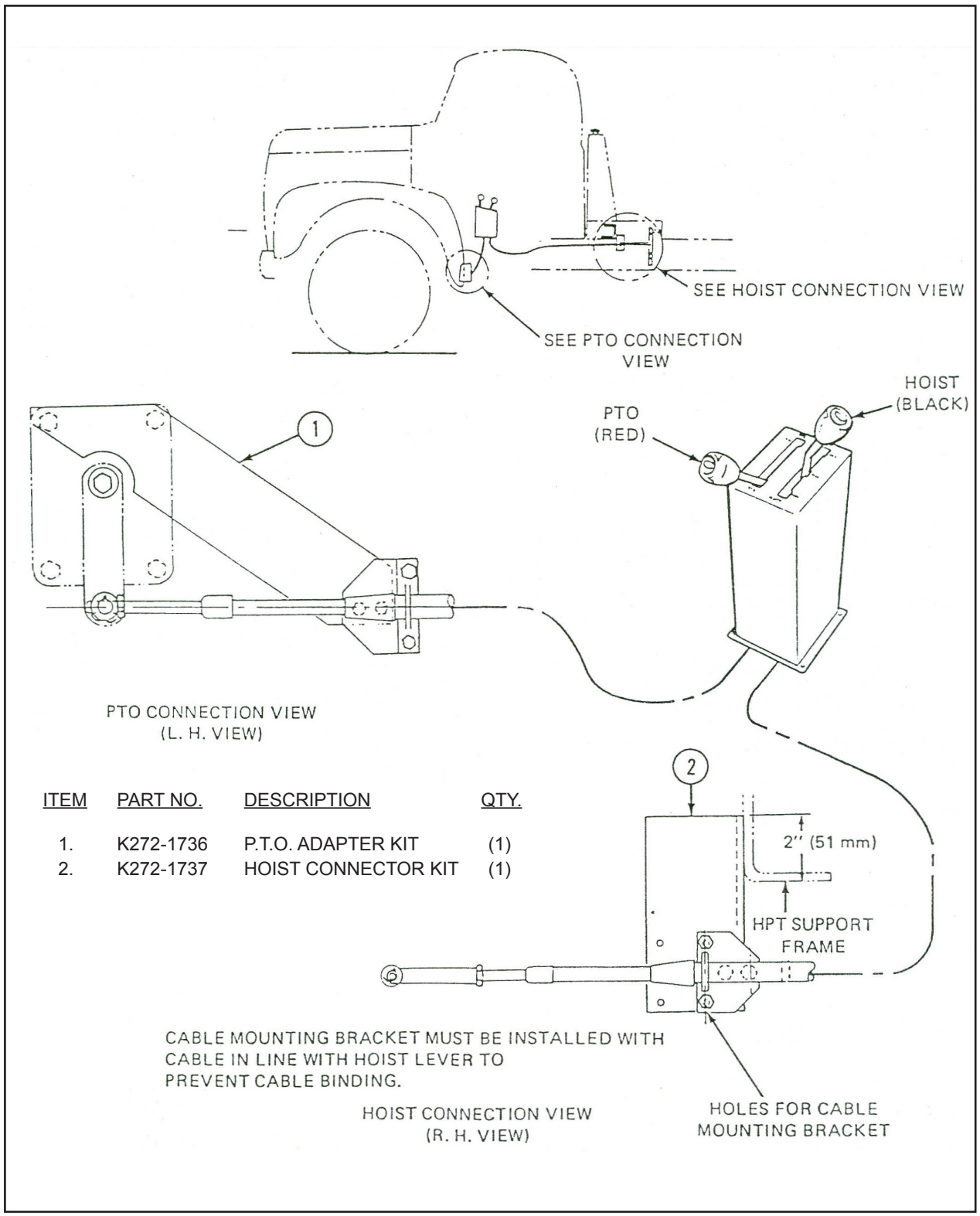


Figure 12D. 272-1715 Dual Cable Controls

VALVE CONTROL SAFETY LOCK

Install the lock, starting at step A, as shown in figure 13.

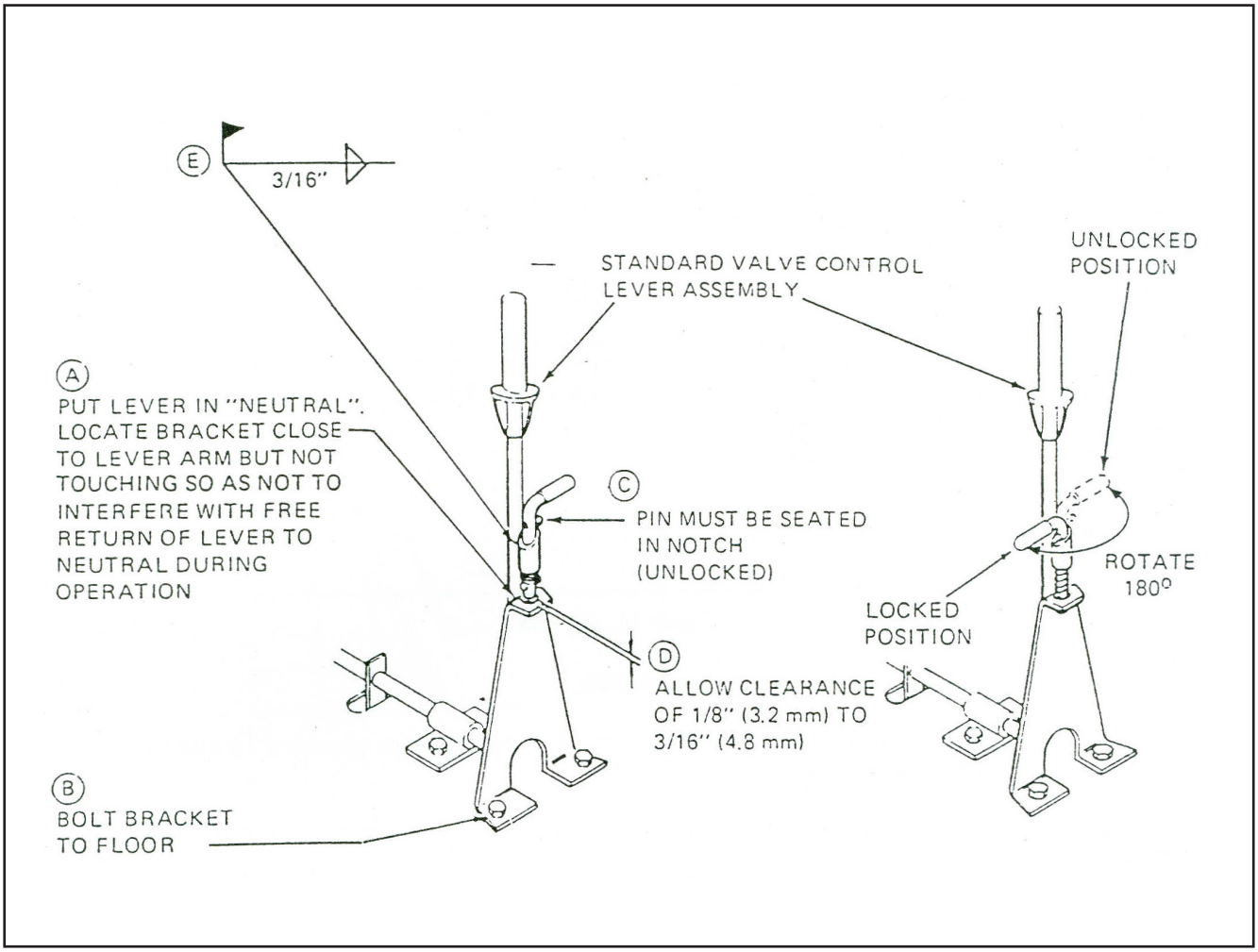
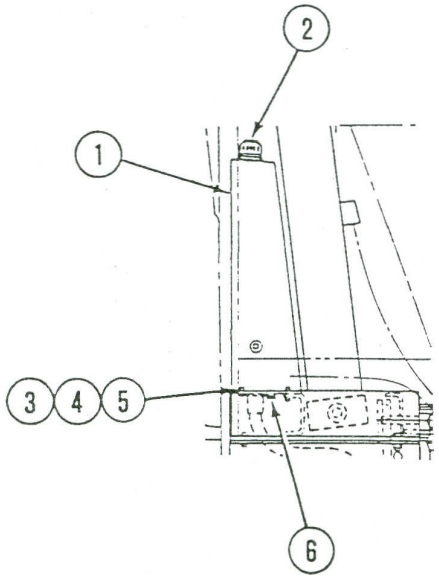


Figure 13. Valve Control Safety Lock

OIL TANK AND PIPING

Install pipe plug in bottom of tank, and install filler-vent unit at top of tank. Bolt tank to cylinder support frame. See figure 14.



ITEM	PART NO.	DESCRIPTION	QTY.
1.	020-1717	OIL TANK	(1)
2.	060-402	FILLER/VENT	(1)
3.	FS-071-124	HEX BOLT 1/2"-13NC X 1-1/2"	(4)
4.	FS-231-100	SELF LOCK NUT 1/2"-13NC	(4)
5.	FS-511-100	FLAT WASHER 1/2"	(4)
6.	FS-902-200	PIPE PLUG 1-1/4" SQ. HD.	(1)

Figure 14. Oil Tank

NOTE

If an optional return line filter kit is to be installed, refer to page 23 before connecting hydraulic lines.

Connect hydraulic lines as shown in figure 16 or 17. See figure 15 for schematic of hydraulic circuit. Use a thread sealing compound on the ends of all pipe threads. Compound not required on tube fitting nuts or 0-ring fittings.

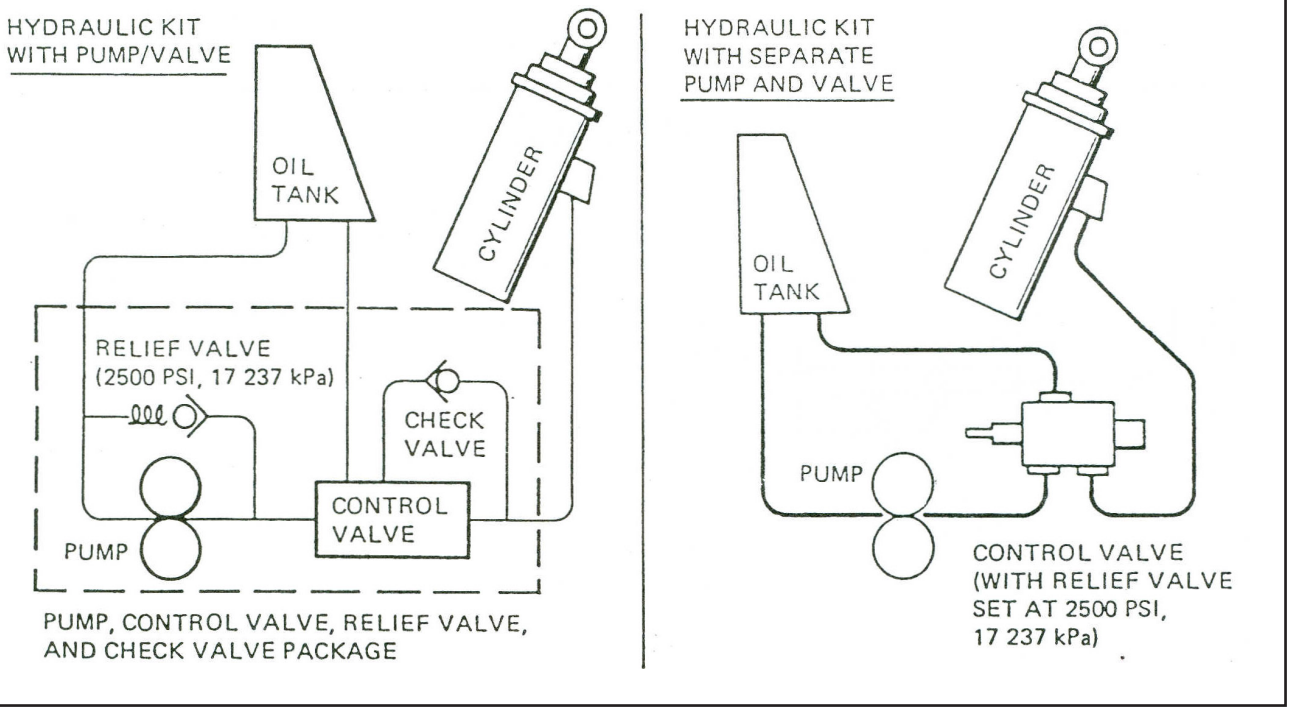


Figure 15. Piping Schematic

ITEM	PART NO.	DESCRIPTION	QTY.
1.	FS-902-001	PIPE PLUG - SQ. HD. 1"	(1)
2.	054-3341-10	MALE CONNECTOR 1"	(1)
3.	057-1858-50	HOSE - 1" PRESSURE 50" LG.	(1)
4.	057-1848-9	HOSE COUPLING - 1" NPTF	(1)
5.	FS-592-220	BUSHING - PIPE 1-1/4" X 1"	(1)
6.	057-426-36	HOSE 1-1/4" SUCTION - 30 " LG.	(1)
7.	074-2216-4	CLAMP HALF LP 1-1/4"	(2)
8.	FS-070-930	HEX. HD- CAPSCREW 3/8-16NC X 2"	(2)
9.	FS-230-900	SELF-LOCK NUT 3/8-16NC	(2)
10.	058-2468-4	PIPE FITTING 1.1/4"	(1)
11.	074-3059-7	ADAPTER UNION 1-1/4"	(1)
12.	FS-822-200	STREET ELBOW 1-1/4" X 90°	(1)

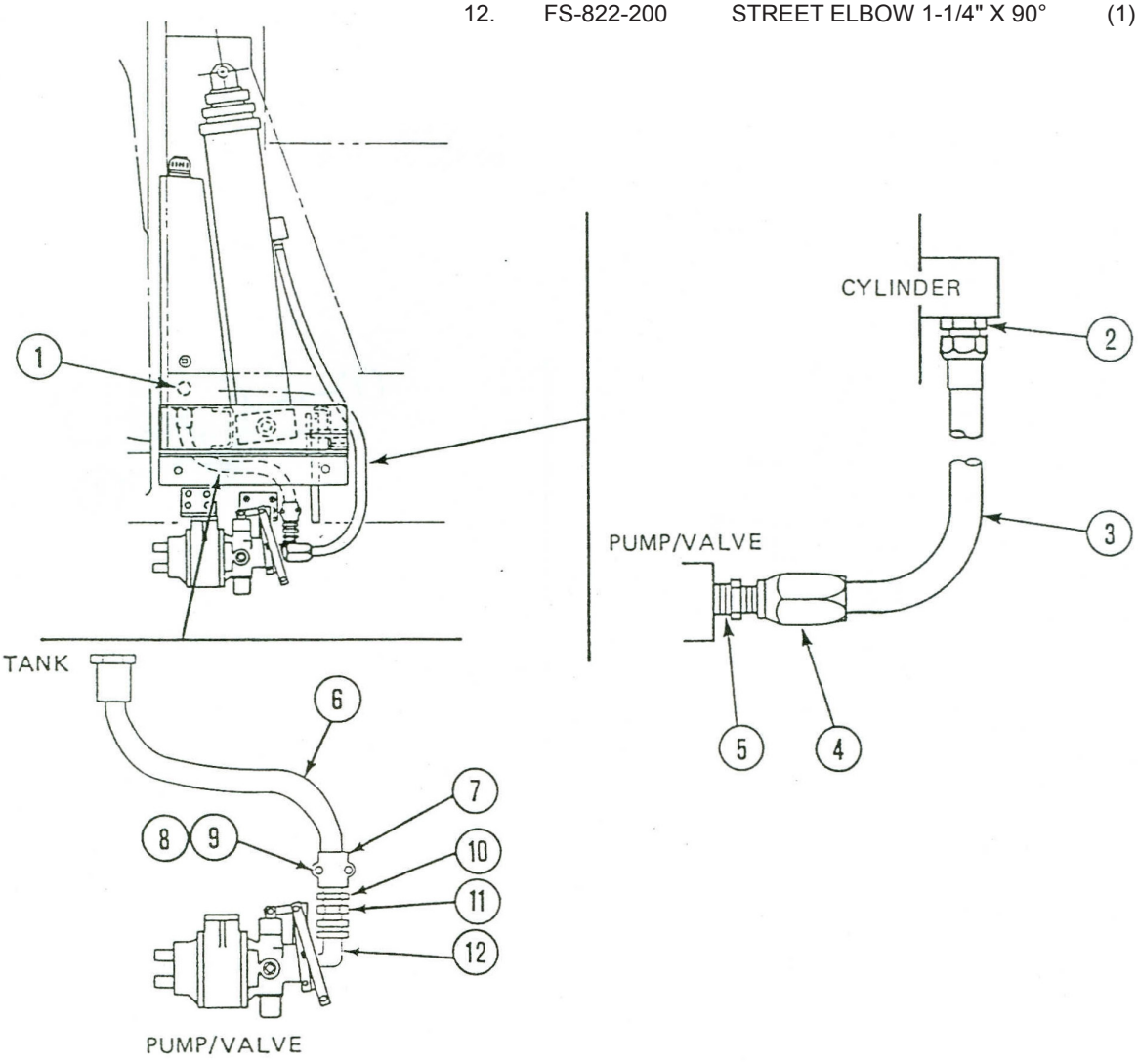
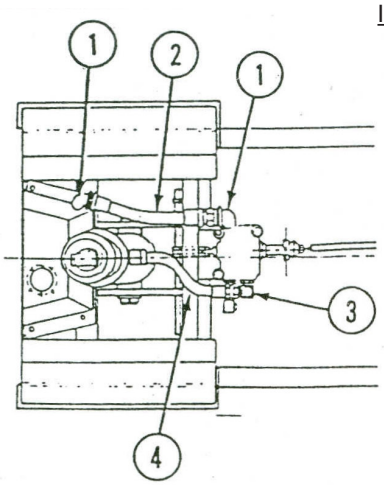


Figure 16- Piping - Std. Hydraulic Kit 272-2360



ITEM	PART NO.	DESCRIPTION	QTY.
1.	FS-822-000	ST. ELL 1" X 90° LP	(2)
2.	057-1423-20	HOSE 1" RETURN 20" LONG	(1)
3.	054-3340-10	FITTING	(1)
4.	057-7141	HOSE 1" PRESSURE 32" LG.	(1)
5.	057-1846-40	HOSE 3/4" PRESSURE 40" LG.	(1)
6.	057-1848-8	HOSE COUPLING	(1)
7.	054-4307-10	SWIVEL ELBOW	(1)
8.	FS-592-422	RED BUSHING 1-1/2" X 1-1/4"	(1)
9.	FS-822-200	ST. ELL 1-1/4" X 900 LP	(1)
10.	074-3059-7	ADAPTER UNION	(1)
11.	058-2468-4	FITTING	(1)
12.	074-2216-4	CLAMP HALF	(2)
13.	FS-070-930	CAPSCREW 3/8"-16NC X 2"	(2)
14.	FS-230-900	SELF-LOCK NUT 3/8"-16NC	(2)
15.	057-426-36	HOSE 1-1/4" SUCTION 36" LG.	(1)

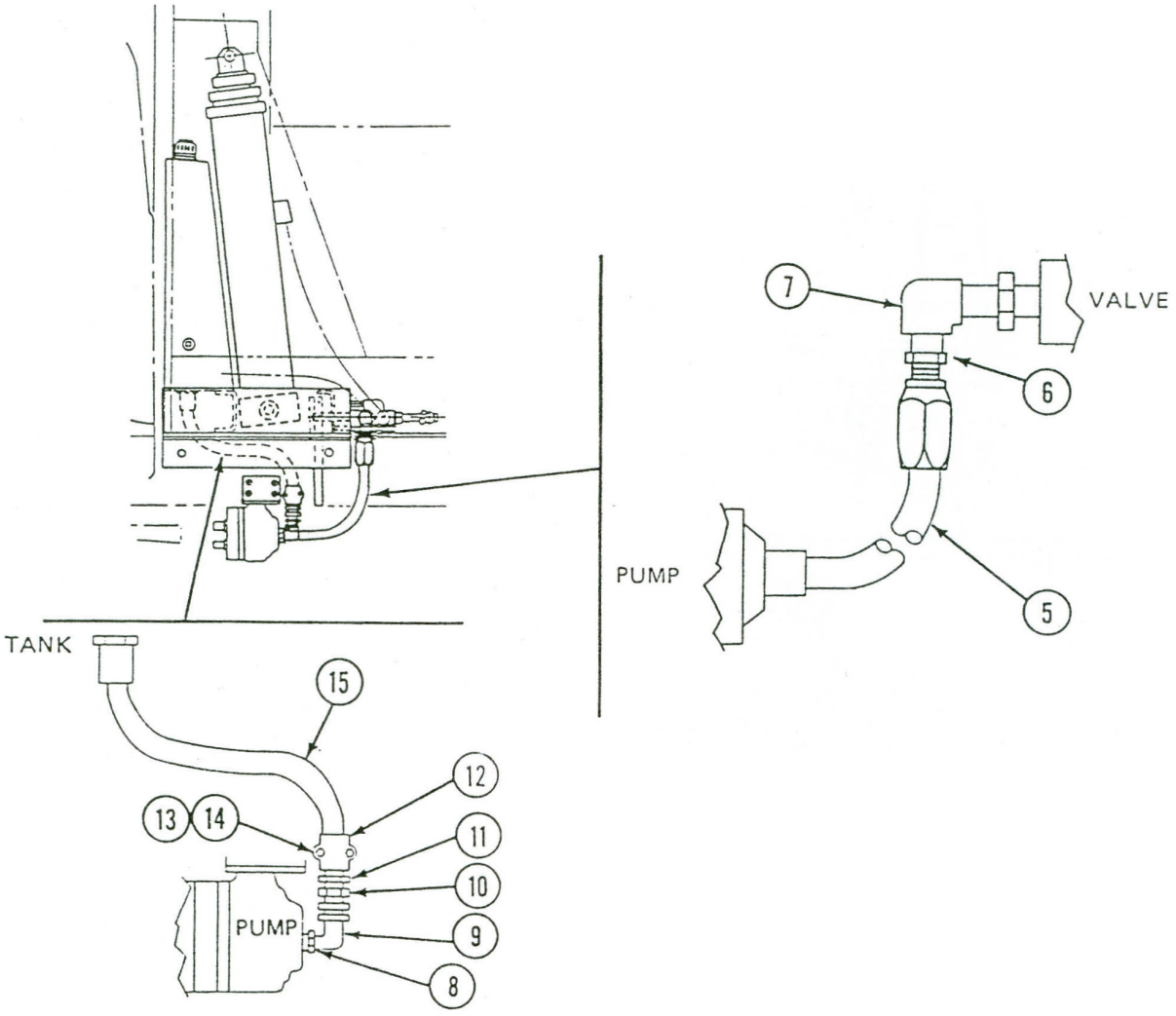
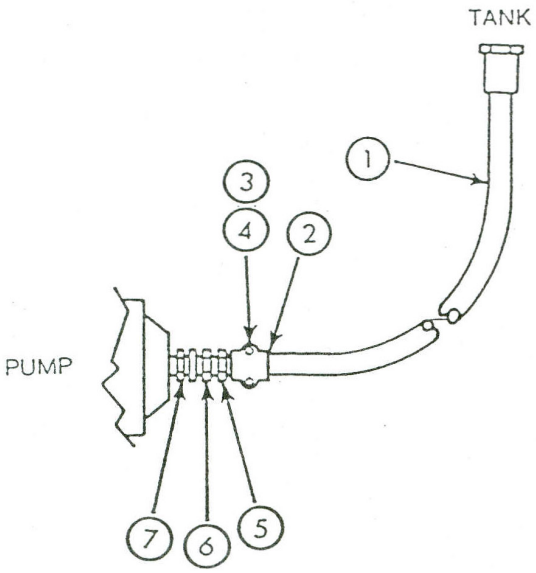
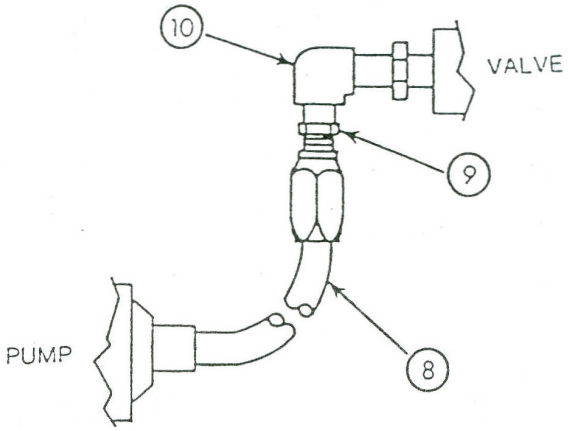


Figure 17. Piping - Optional Hydraulic Kits 272-105 or 272-1103



PUMP TO TANK



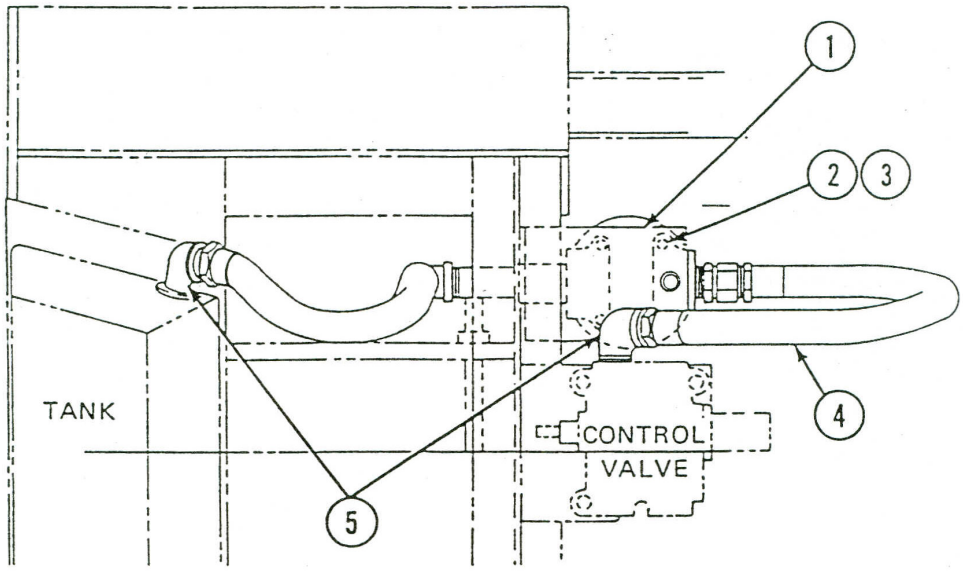
PUMP TO VALVE

ITEM	PART NO.	DESCRIPTION	QTY.
1	057-426-60	HOSE 1-1/4 SUCTION	(1)
2	074-2216-4	CLAMP HALF	(2)
3	FS-070-930	CAPSCREW 3/8-16 NC x2	(2)
4	FS-230-900	SELF-LOCK NUT 3/8-16 NC	(2)
5	058-2468-4	FITTING	(1)
6	074-3059-7	ADAPTER UNION	(1)
7	FS-592-215	RED. BUSHING 1-1/4 x 3/4	(1)
8	057-1853-90	HOSE 3/4" PRESS	(1)
9	057-1848-8	HOSE COUPLING	(1)
10	054-4307-10	SWIVEL ELBOW	(1)

Figure 17A. Piping Diagram — Direct Mount Pump

RETURN LINE FILTER KIT (Optional)

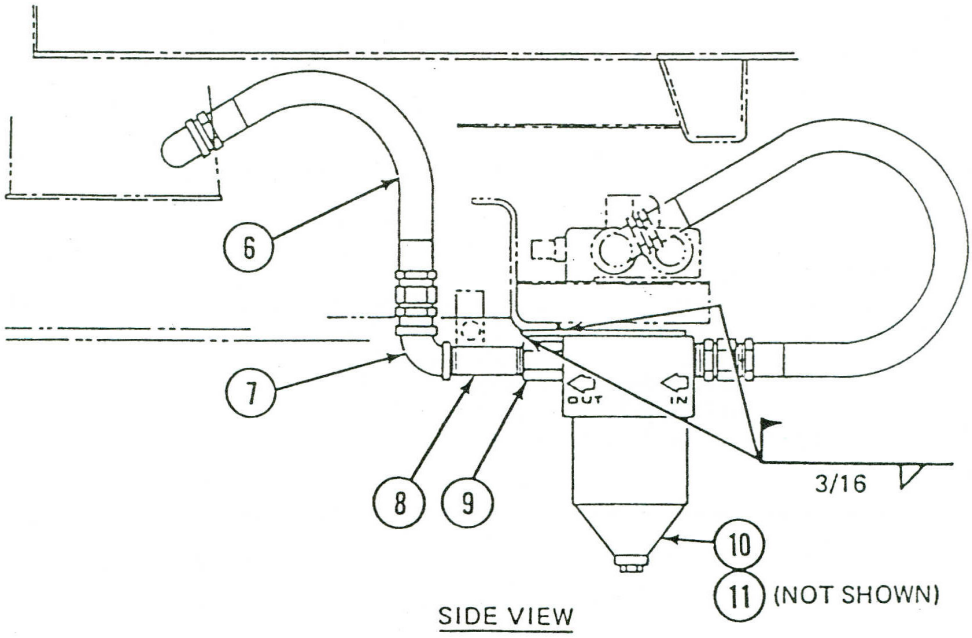
Locate and weld mounting plate to bottom of support frame as shown in figure 17. Bolt filter to mounting plate. Connect hydraulic lines as shown in figure 17. Use a thread sealing compound on all pipe threads. Return line filter kit can only be used with hoist hydraulic kits 272-105 and 272-1103.



TOP VIEW

ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1.	134-1949	MOUNTING PLATE	(1)	7.	FS-742000	ELBOW 1" X 90° 150# M.I.	(1)
2.	FS-070917	CAPSCREW 3/8"-16 NC X 7/8	(4)	8.	FS-882050	PIPE NIPPLE 1" X 4	(1)
3.	FS-540900	LOCKWASHER 3/8"	(4)	9.	031.2607	CHECK VALVE	(1)
4.	057-1423-40	HOSE 1" L.P.	(1)	10.	075-406	FILTER ASSY.	(1)
*5.	FS-822000	ST. ELL 1" X 900 L.P.	(2)	11.	075-406-1	FILTER CARTRIDGE	(1)
*6.	057-1423-20	HOSE 1" L.P.	(1)				

*Parts are furnished with hoist installation kit.



SIDE VIEW

Figure 18. Return Line Filter Kit Installation (Optional)

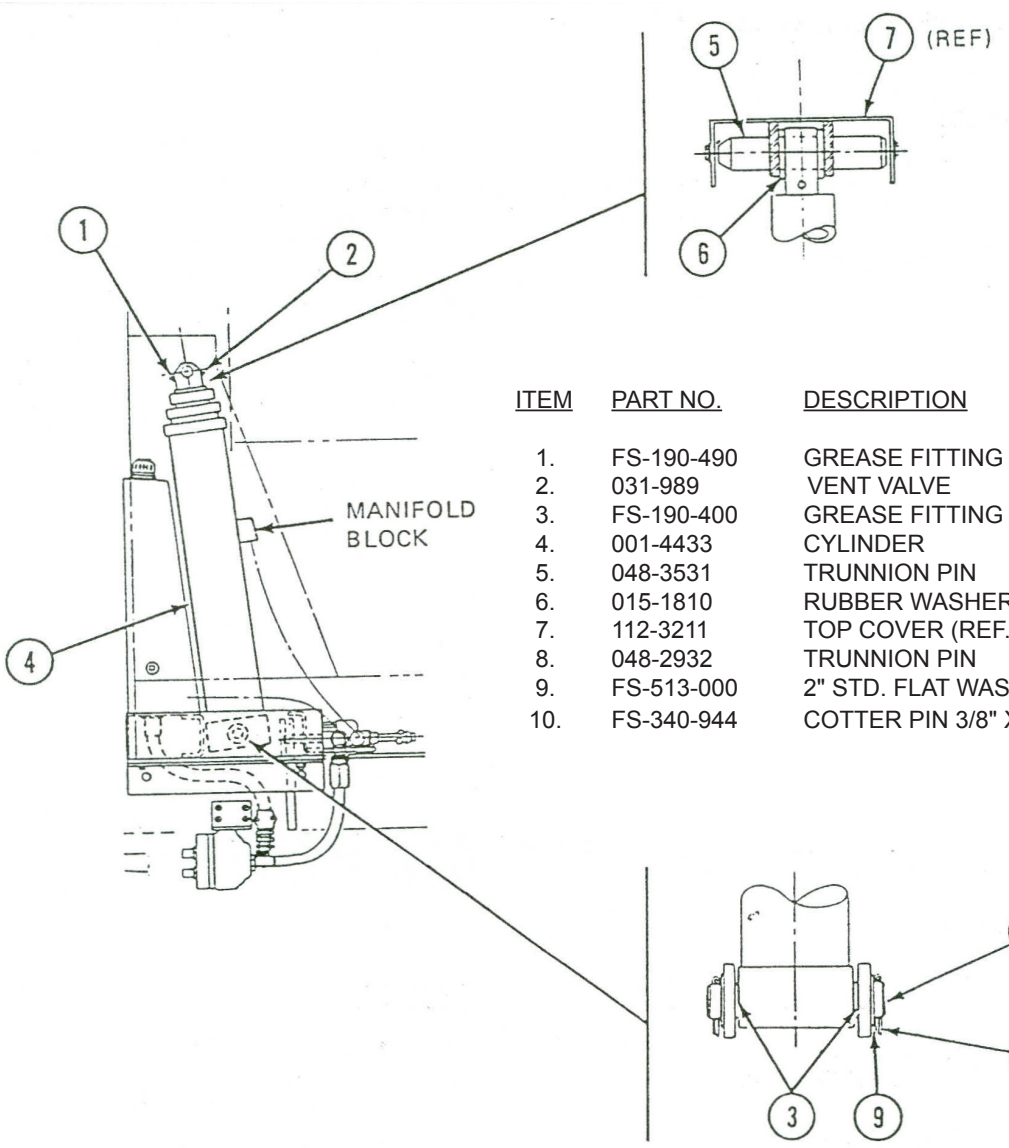
CYLINDER

Install grease fittings in both ends of cylinder. See figure 19. Remove pipe plug from upper end of cylinder and replace with vent valve. Install cylinder in support frame so that manifold block faces rearward. Turn inner sleeve so that vent valve also faces rearward. Make final hose connection from control valve to cylinder. Rest cylinder against tank temporarily.

Premeasure 15 gallons (56.8 liters) of oil to fill the full hydraulic system (add 1/2 gallon when system has filter). Move control valve into the HOLD position and fill oil tank to within 5” (127 mm) of the top. Save remainder of oil to fill system after purging as noted on page 28-

Use a hydraulic oil with an SAE viscosity rating of 1 OW that contains an antifoamant, rust and oxidation inhibitor, and an antiwear additive. If a hydraulic oil is not available use an API engine oil, designation SE, with an SAE viscosity rating of 10W.

DO NOT USE low viscosity naptha base motor oil, hydraulic brake fluid, aircraft hydraulic fluid, HYTRAN or other transmission fluid.

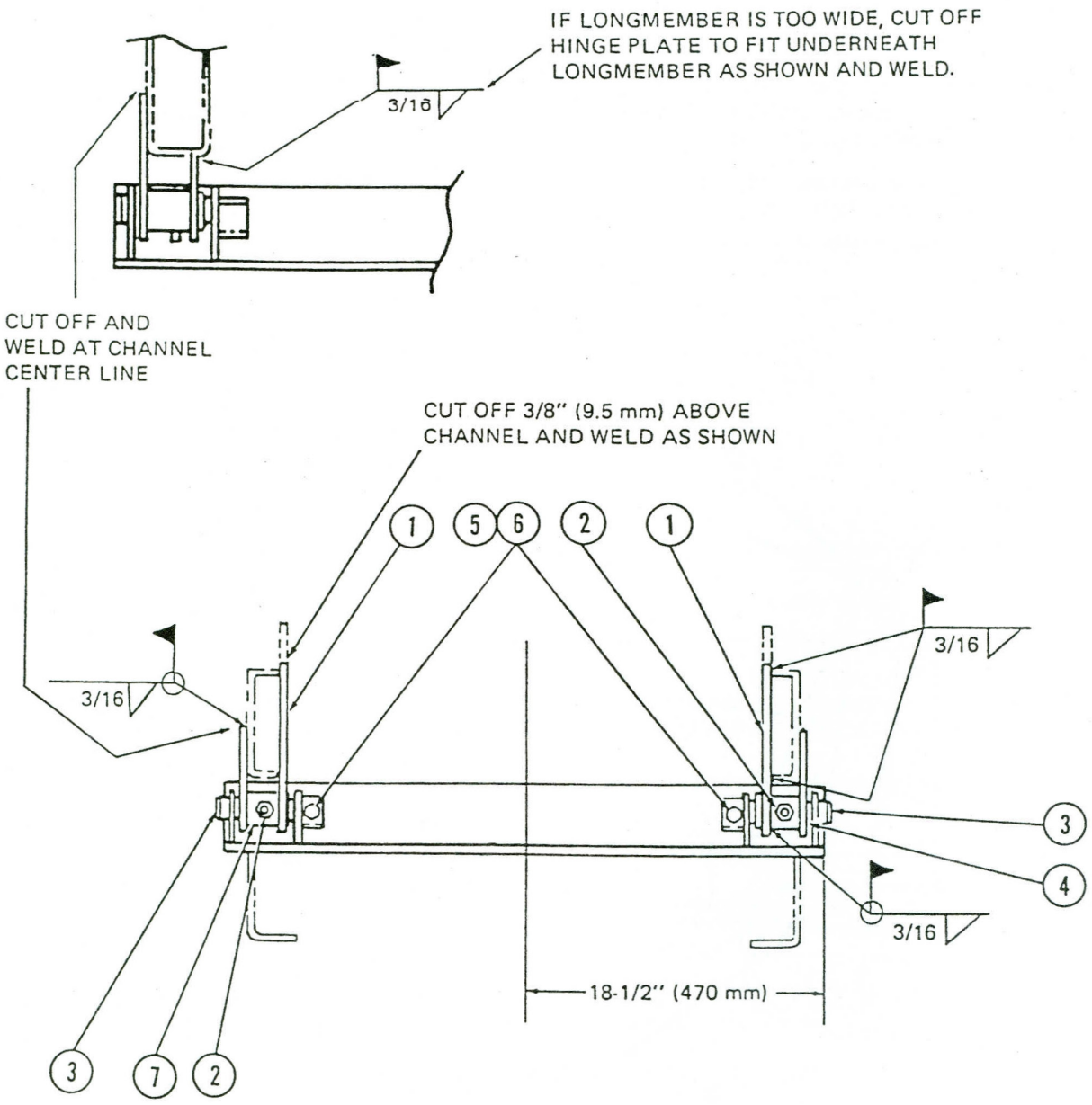


ITEM	PART NO.	DESCRIPTION	QTY.
1.	FS-190-490	GREASE FITTING 1/8" X 90°	(1)
2.	031-989	VENT VALVE	(1)
3.	FS-190-400	GREASE FITTING 1/8" STR.	(2)
4.	001-4433	CYLINDER	(1)
5.	048-3531	TRUNNION PIN	(1)
6.	015-1810	RUBBER WASHER	(2)
7.	112-3211	TOP COVER (REF.)	(1)
8.	048-2932	TRUNNION PIN	(1)
9.	FS-513-000	2" STD. FLAT WASHER	(2)
10.	FS-340-944	COTTER PIN 3/8" X 3-1/2"	(2)

Figure 19. Cylinder Mounting

MOUNTING BODY

Mount body and align it so it is square on the chassis. Install grease fittings in hinges and assemble hinges, hinge shafts, bolts and nuts. Weld hinges to the body longmembers as shown in figure 20.



ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1.	134-5484	HINGE PLATE	(2)	6.	FS-231-100	SELF-LOCK NUT 1/2"-13 NC	(2)
2.	FS-190-400	GREASE FITTING 1/8"	(2)				
3.	048-4089	PIN	(1)	7.	005-3460	HINGE ASSY. (L-H.)	(1)
4.	005-3461	HINGE ASSY. (R.H.)	(1)				
5.	FS-071-136	HEX- HD. CAPSCREW 1/2"-13 NC X 2-3/4	(2)				

Figure 20. Installing Hinges

Lift front end of body so that it is 18” (450 mm) above the support frame.

WARNING

BLOCK BODY SECURELY. SEE FIGURE 21 FOR RECOMMENDED BLOCKING PROCEDURES.

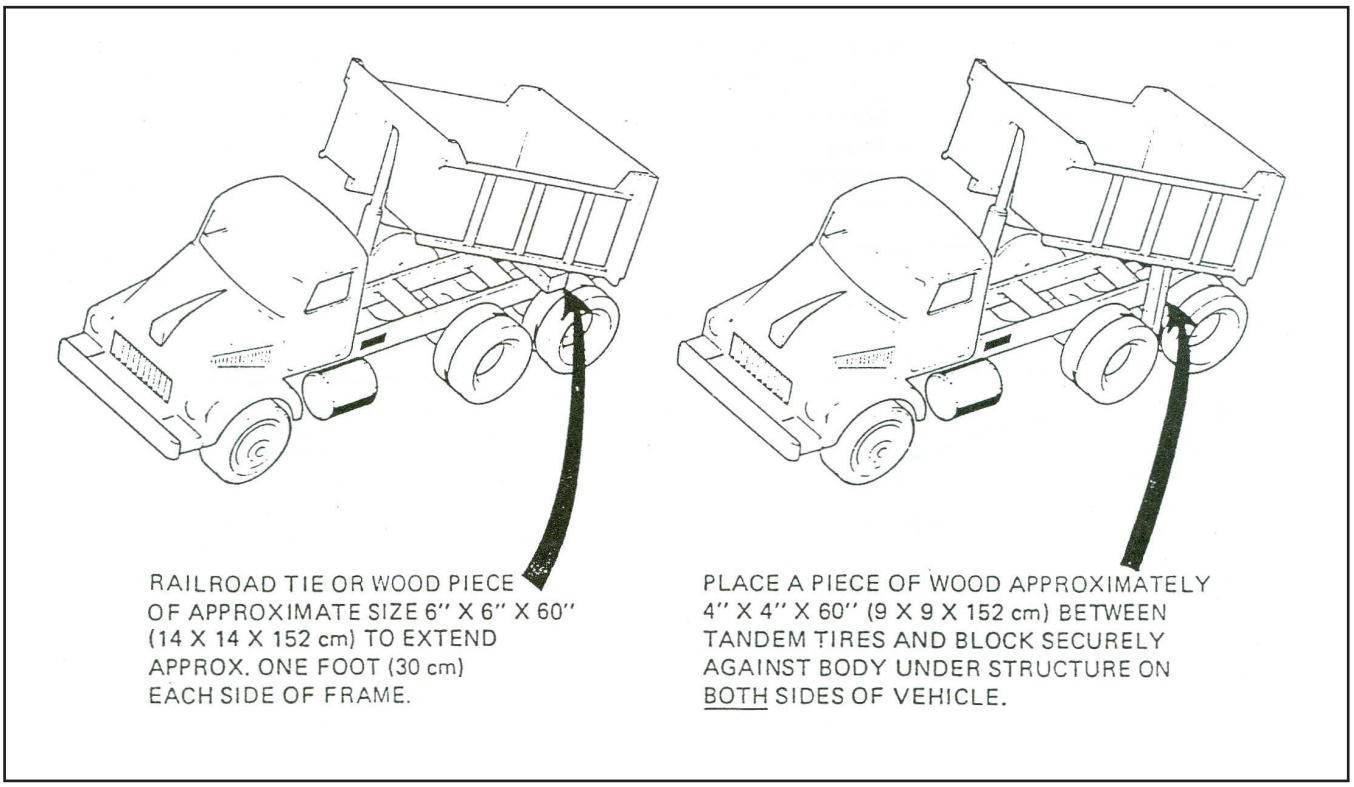


Figure 21. Blocking the Body

CAUTION

DO NOT GET HANDS OR ARMS BETWEEN CYLINDER AND BODY DOG-HOUSE WHILE CYLINDER IS EXTENDING.

With one man in the cab operating the hoist and another man guiding the cylinder into the doghouse, extend the cylinder slowly until the hole in the cylinder sleeve lines up with the hole in the body bracket.

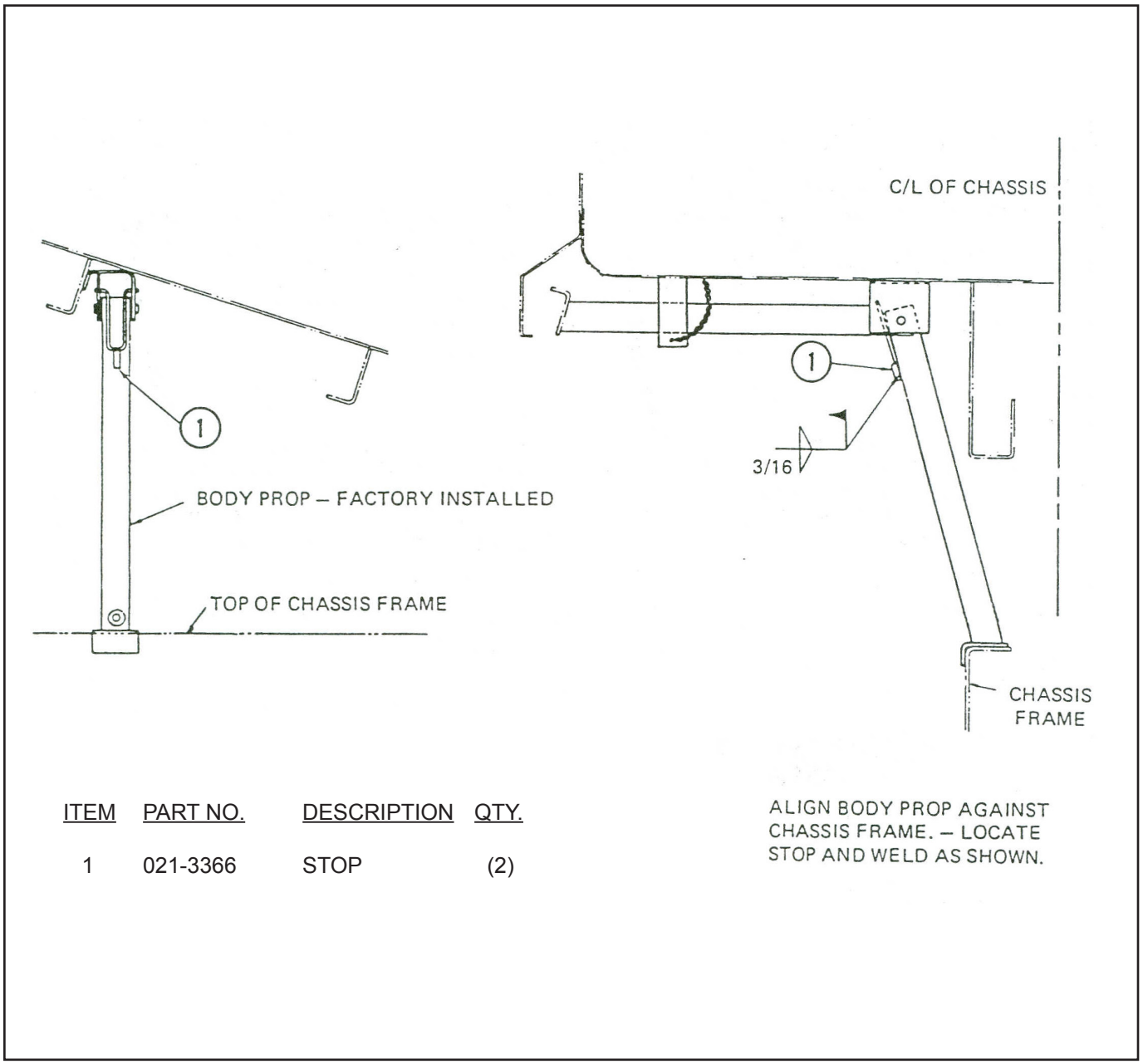
Install upper trunnion pin and rubber washers. See figure 19.

Apply grease to upper and lower grease fittings on cylinder.

⚠ CAUTION

WHEN ANY WORK IS TO BE DONE ON BODY OR HOIST AND BODY IS FULLY OR PARTLY RAISED, BODY MUST BE BLOCKED SECURELY SO IT CANNOT FALL. IN ADDITION, THE HOIST CONTROL LEVER MUST BE IN NEUTRAL WITH THE HOIST LEVER LOCKOUT ENGAGED IN THE "LOCK" POSITION AND THE PTO DISENGAGED.

Install stops on the body props as shown in figure 22.



ITEM	PART NO.	DESCRIPTION	QTY.
1	021-3366	STOP	(2)

Figure 22. Body Prop Installation

PURGING HYDRAULIC SYSTEM

⚠ CAUTION

WHEN ANY WORK IS TO BE DONE ON BODY OR HOIST AND BODY IS FULLY OR PARTLY RAISED, BODY MUST BE BLOCKED SECURELY SO IT CANNOT FALL. IN ADDITION, THE HOIST CONTROL LEVER MUST BE IN NEUTRAL WITH THE HOIST LEVER LOCKOUT ENGAGED IN THE "LOCK" POSITION AND THE PTO DISENGAGED.

SEE FIGURE 21 FOR RECOMMENDED BLOCKING METHODS. READ AND STUDY THE OPERATOR'S MANUAL BEFORE PROCEEDING.

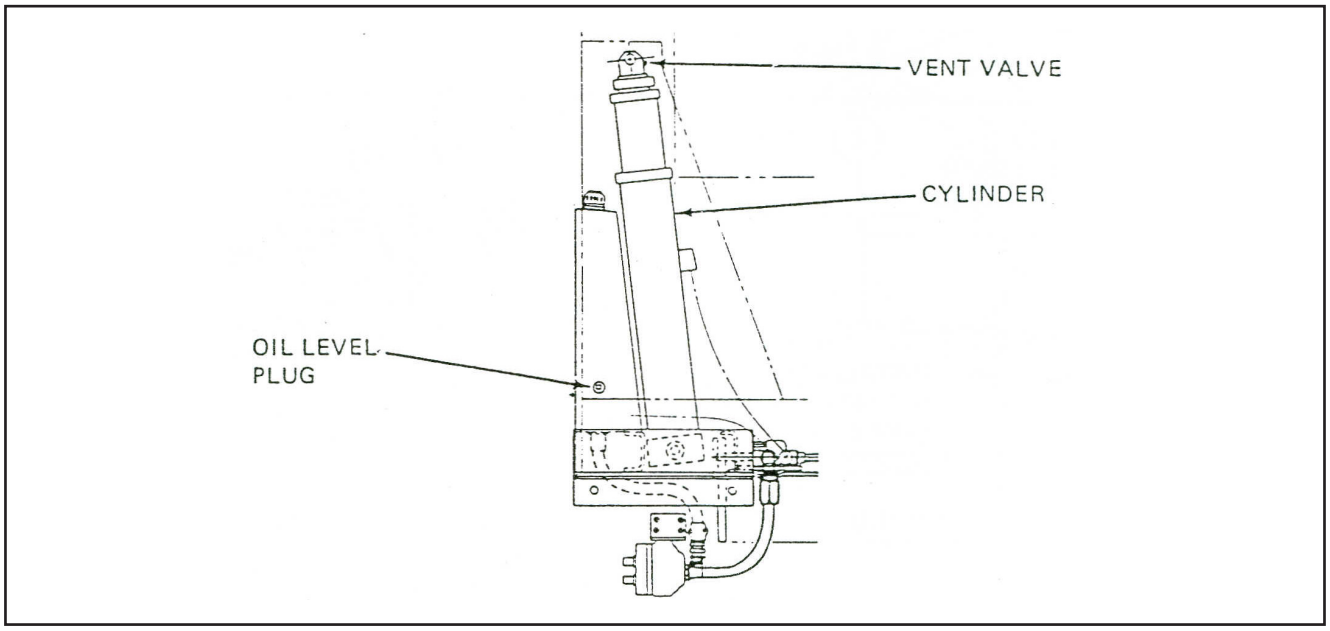


Figure 23. Purging Hydraulic System

VALVE PULL OUT

The cable tube (054-4731) is a multipiece assembly. The cable tube must be assembled and tack welded together before installing into the truck chassis. See figure 24.

NOTE

The cable tube supports (077-7396) must be slid onto the tubes before tack welding the tubes. The supports will not slide over the swaged ends of the tubes.

Raise body and block securely. See figure 21. Weld U-Bar to body crossmember as shown in figure 25. Attach tension spring between U-Bar and cable and attach cable to end of control valve spool or to pump/ valve spool lever. Cable must be mounted inside cable tube and tube must be supported and attached to chassis in at least two places. Ends of tube must be flared and the section of tube at rear bent to allow for a straight pull of the cable at full dump angle. See figure 25. Adjust cable to move control lever to HOLD (Neutral) position with approximately 2" (51 mm) of cylinder stroke remaining. This procedure may have to be repeated several times to ensure proper setting. The purpose of this device is to prevent the full extension impact of the cylinder which will adversely affect the life of the cylinder.

NOTE

Never use the pull out cable to limit dump angle. Over travel due to backtipping will damage the valve.

⚠ CAUTION

UNDER NO CIRCUMSTANCES SHOULD THIS CABLE EVER BE USED TO OPERATE THE EQUIPMENT. ALWAYS USE CONTROLS IN CAB.

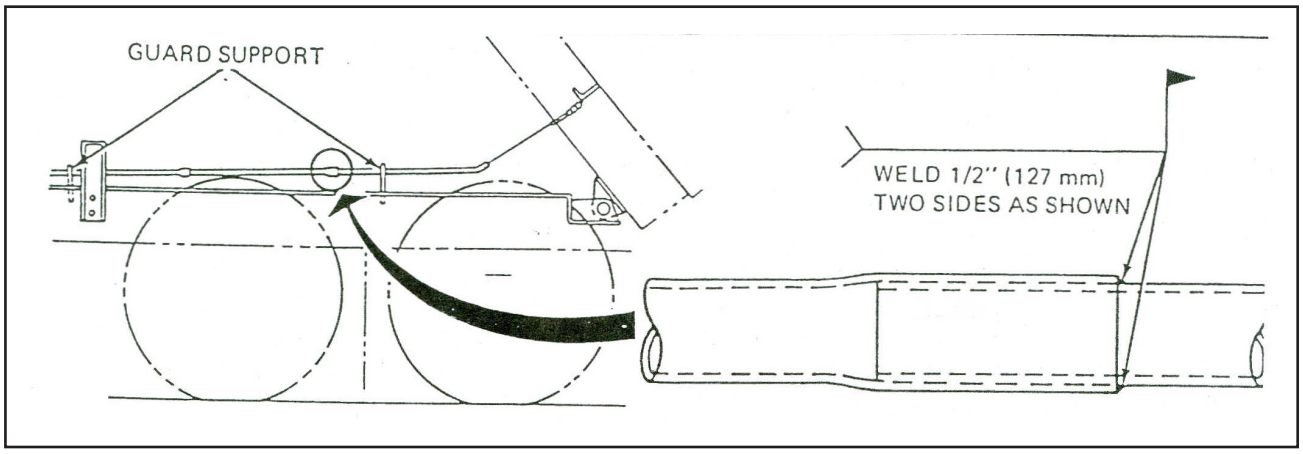
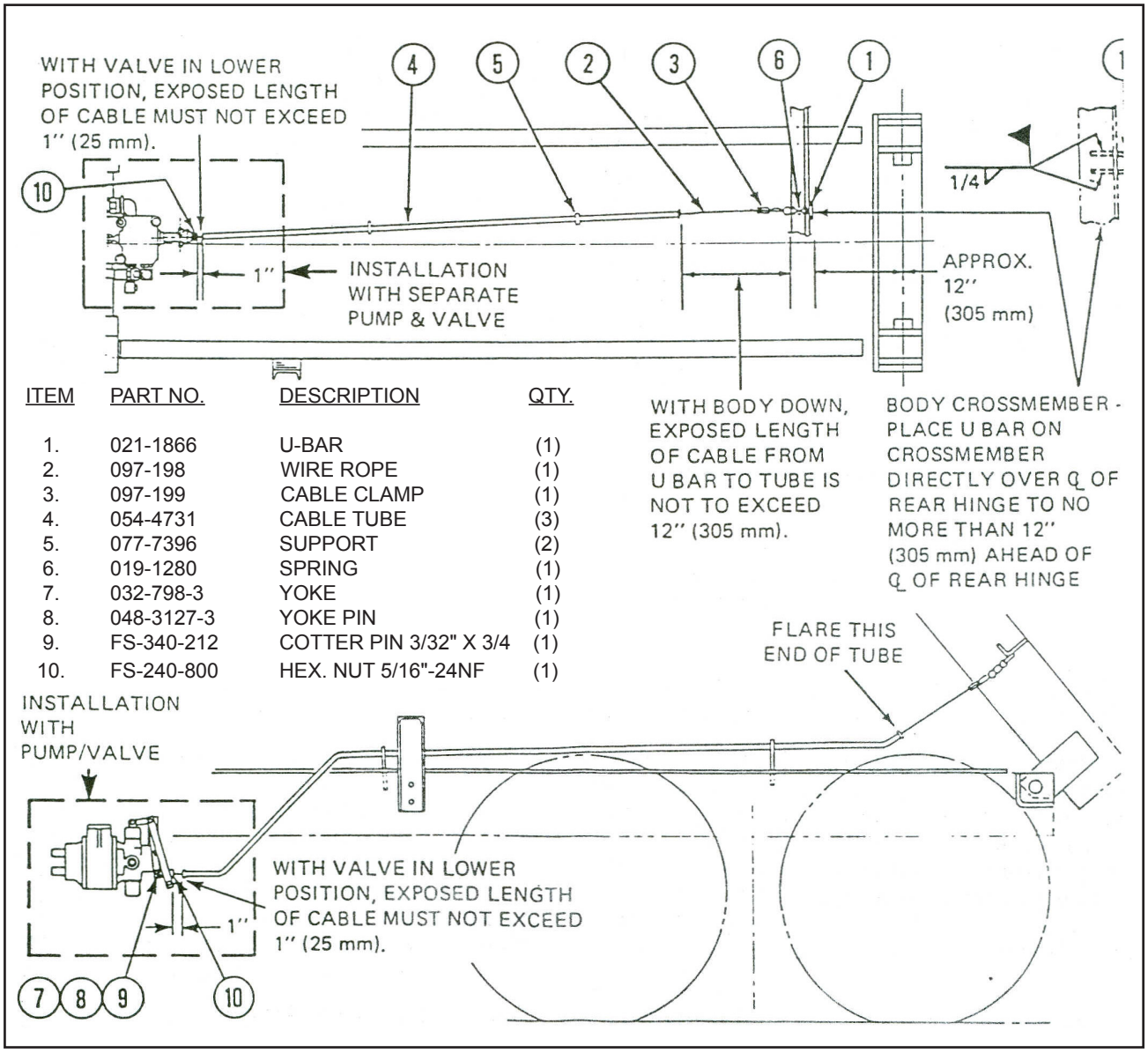


Figure 24. Assembly of Cable Tubes



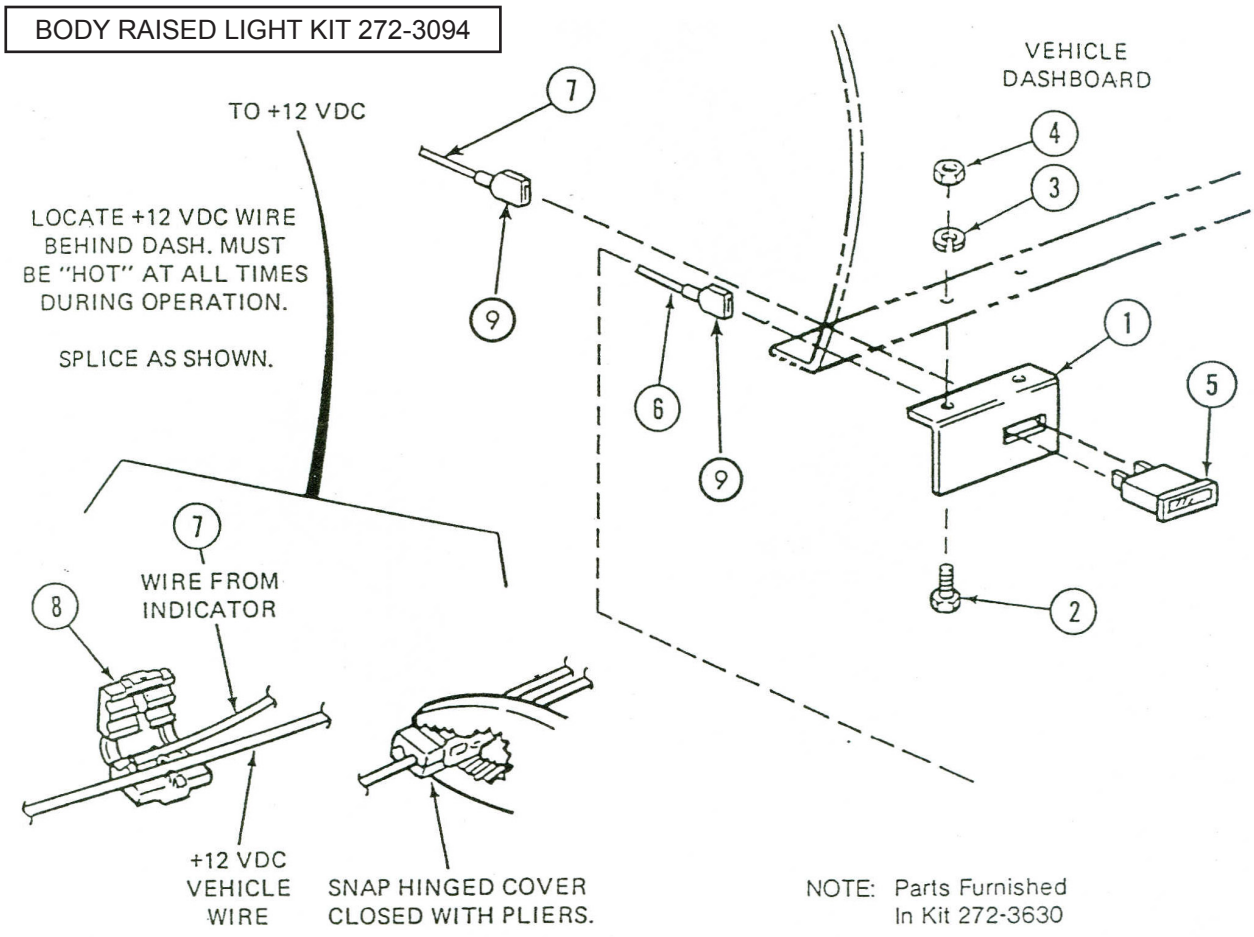
ITEM	PART NO.	DESCRIPTION	QTY.
1.	021-1866	U-BAR	(1)
2.	097-198	WIRE ROPE	(1)
3.	097-199	CABLE CLAMP	(1)
4.	054-4731	CABLE TUBE	(3)
5.	077-7396	SUPPORT	(2)
6.	019-1280	SPRING	(1)
7.	032-798-3	YOKE	(1)
8.	048-3127-3	YOKE PIN	(1)
9.	FS-340-212	COTTER PIN 3/32" X 3/4	(1)
10.	FS-240-800	HEX. NUT 5/16"-24NF	(1)

Figure 25. Valve Pull Out

BODY RAISED INDICATOR KIT

Position body raised switch on the left side on the front of the hoist frame or. to the chassis frame. If attached to the hoist frame, the bracket may be welded or bolted in place. If mounted to the chassis frame, use the bracket as a template and drill two holes for 3/8” bolts. See Figure 27

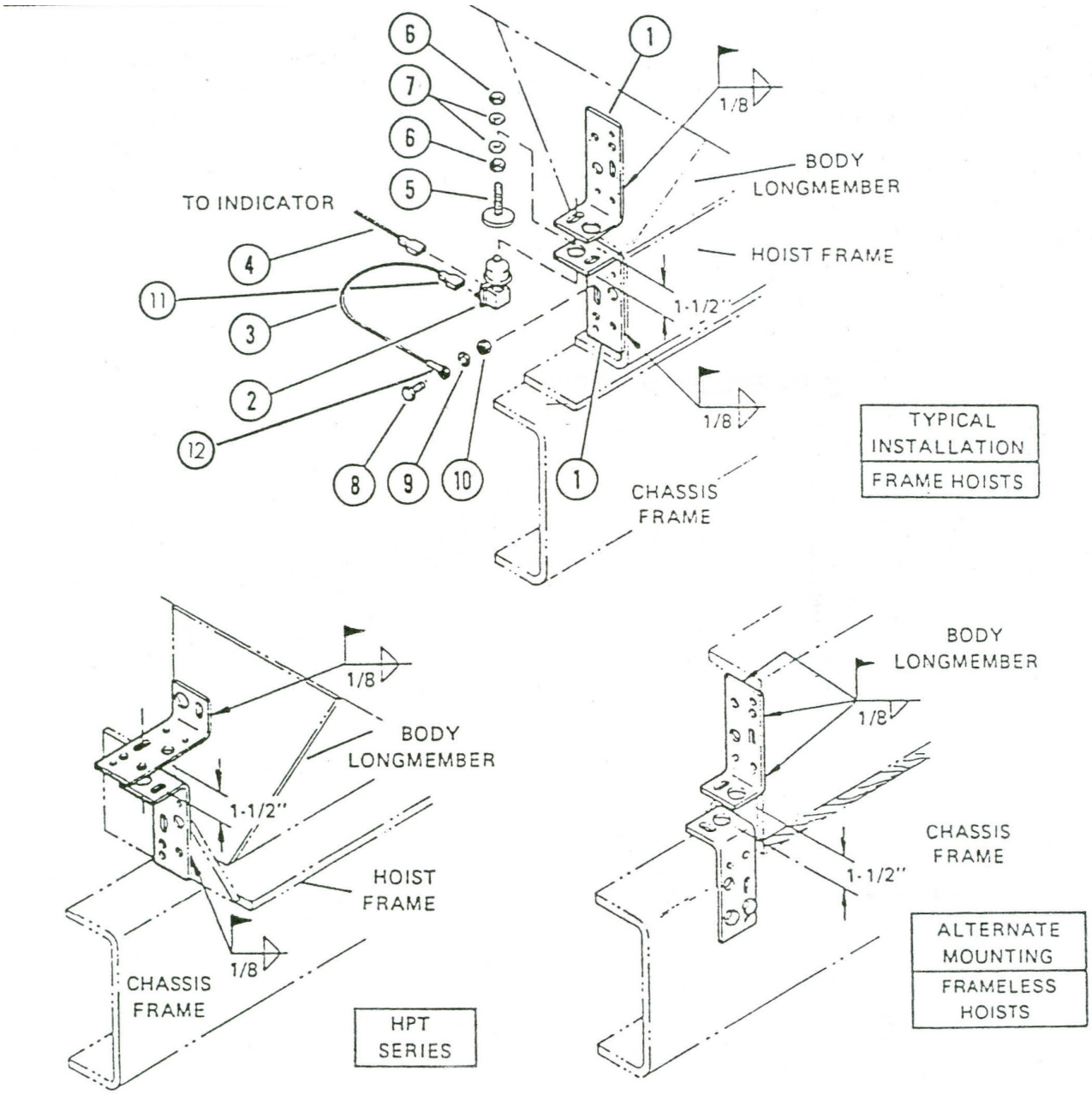
Adjust the activating screw so that switch button is depressed about 3/16” and test for proper operation.



ITEM	PART NO.	DESCRIPTION	QTY.
1.	211-2191	BRACKET	(1)
2.	FS-079-415	HEX HD CAPSCREW #10-32 x 3/4	(2)
3.	FS-550400	LOCKWASHER #10	(2)
4.	FS-280400	HEX NUT #10-32	(2)
5.	115-784	INDICATOR	(1)
*6.	263-68-144	WIRE	(1)
7.	263-69-60	WIRE	(1)
8.	108-1180	CONNECTOR	(1)
9.	108-4571	TERMINAL	(3)

• Also shown in figure 19

Figure 26. Body Raised Switch



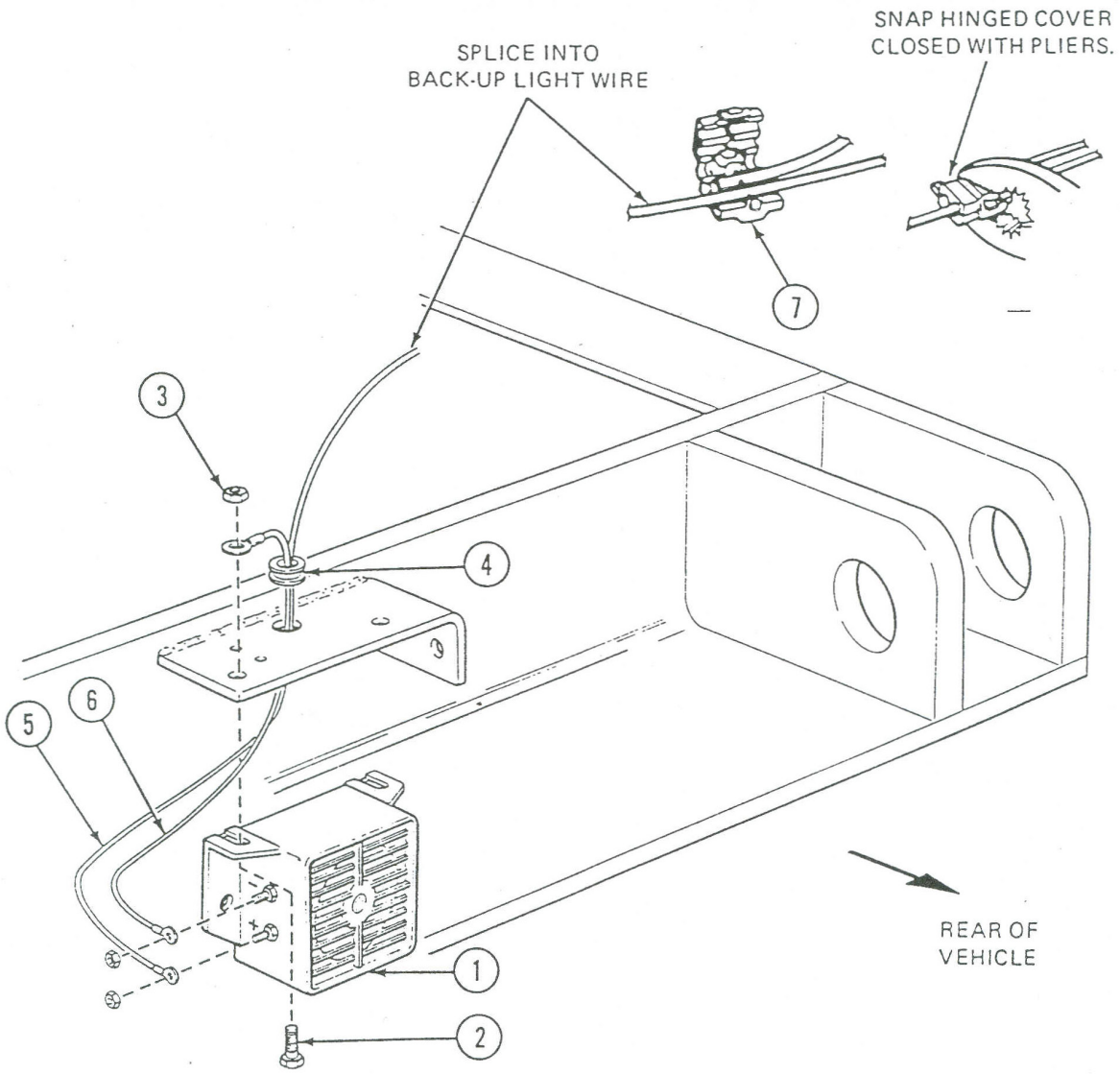
ITEM	PART NO.	DESCRIPTION	QTY.
1.	211-3184	Bracket	(2)
2.	254-3431	Switch	(1)
3.	263-68-6	Wire	(1)
4.	263-68-144	Wire	(1)
5.	47-2249	Flat Head Elev. Bolt 1/4-20 NC x 1-1/2"	(1)
6.	FS-280-700	Hex Nut 1/4 - 20 NC	(2)
7.	FS-510-700	Flat Washer 1/4"	(2)
8.	FS-079-415	Hex Hd. Capscrew 10-24 NC x 3/4"	(1)
9.	FS-550-400	Lockwasher No. 10	(1)
10.	FS-280-400	Hex Nut 10-24 NC	(1)
11.	108-4571	Terminal	(1)
12.	108-4572	Terminal	(1)

NOTE: Parts Furnished In Kit 272-3630

Figure 27. Body Raised Switch

BACK-UP ALARM INSTALLATION

Mount back-up alarm as shown below using existing holes in bracket on rear hinge frame.



ITEM	PART NO.	DESCRIPTION	QTY.	
1.	108-3991	BACK-UP ALARM	(1)	
2.		CAPSCREW 1/4"-20 NC x 3/4	(2)	
3.		LOCK NUT 1/4"-20 NC	(2)	
4.	272-2362	GROMMET	(1)	1
5.		WIRE-RED (36" LG.)	(1)	
6.		WIRE-BLACK (6" LG.)	(1)	
7.		WIRE CONNECTOR	(1)	

Figure 28. Back-Up Alarm

BODY PROP OPERATION

BE SURE THAT BODY IS UNLOADED BEFORE USING PROP.

⚠ CAUTION

TWO PROPS ARE INSTALLED ON BODIES OVER 16 FEET. BOTH MUST BE USED.

TO USE:
1. RAISE BODY TO A HEIGHT WHERE PROPS CAN BE SWUNG INTO POSITION.
2. SWING BODY PROP(S) TO SUPPORT POSITION.
3. LOWER BODY ONTO THE BODY PROP(S) AND VISUALLY INSPECT TO SEE THAT PROP(S) ARE SECURE BEFORE PERFORMING ANY WORK

TO STORE:
4. RAISE BODY SLIGHTLY. BE SURE HOIST CONTROL VALVE IS IN HOLD POSITION.
5. RETURN PROP(S) TO TRANSIT POSITION.

DECALS AND SERIAL NUMBER PLATES

Install decals according to the instructions below. Refer to figure 29 for decal location. Model and serial numbers are located by manufacture as shown in figure 29.

1. WARNING DECAL #212A735 is 1-7/8” x 4-1/2” (48 mmx 114 mm). It must be placed on the dash above decal #212A1104.

2. CAUTION DECAL #212A1104 is 1-7/8” x 4-1/2” (48 mm x 114 mm). It must be placed on the dash below decal #212A735 and above decal #212A1170.

3. CAUTION DECAL #212A1170 is 1-7/8” x 4-1/2” (48 mm x 114 mm). It must be placed on the dash below decal #212A1104.

4. INSTRUCTION DECAL #212A1166 is 3-7/8” x 5-1/2” (98 mm x 140 mm). It must be placed on the dash next to the WARNING and CAUTION decals as shown in figure 29.

5. If installation has the standard cable controls, use decal #212A1167 for hoist control and decal #212A1168 for PTO control. Based on the controls installation for this specific hoist, select and install the PTO decal (#212A1168-1 or #212A1168-2) that corresponds to the direction of travel of the cable control for the PTO IN and OUT.

   If the installation has the optional lever controls, use decals #212A1164. Select and install the decal that corresponds to the direction of travel for PTO lever IN and OUT and for hoist control UP and DOWN.

6. CAUTION DECAL #212A1131 is 4-3/4” x 5” (121 mm x 127 mm). It must be placed on the front left hand corner of the body as shown in figure 29.

7. CAUTION DECAL #212A1103 is 3-1/2” x 9” (89 mm x 229 mm). It must be placed on the chassis frame (one on each side) as shown in figure 29.

8. CAUTION DECAL #212B1186 is 4-1/4” x 8-1/4” (108 mm x 210 mm). It must be placed on the hoist frame (one on each side) near the body prop, clearly visible to the operator.

9. WARNING DECAL #212A1373 is 1-7/8” x 4-1/2” (48 mm x 114 mm). It must be placed on the dash below decal #212A1170.

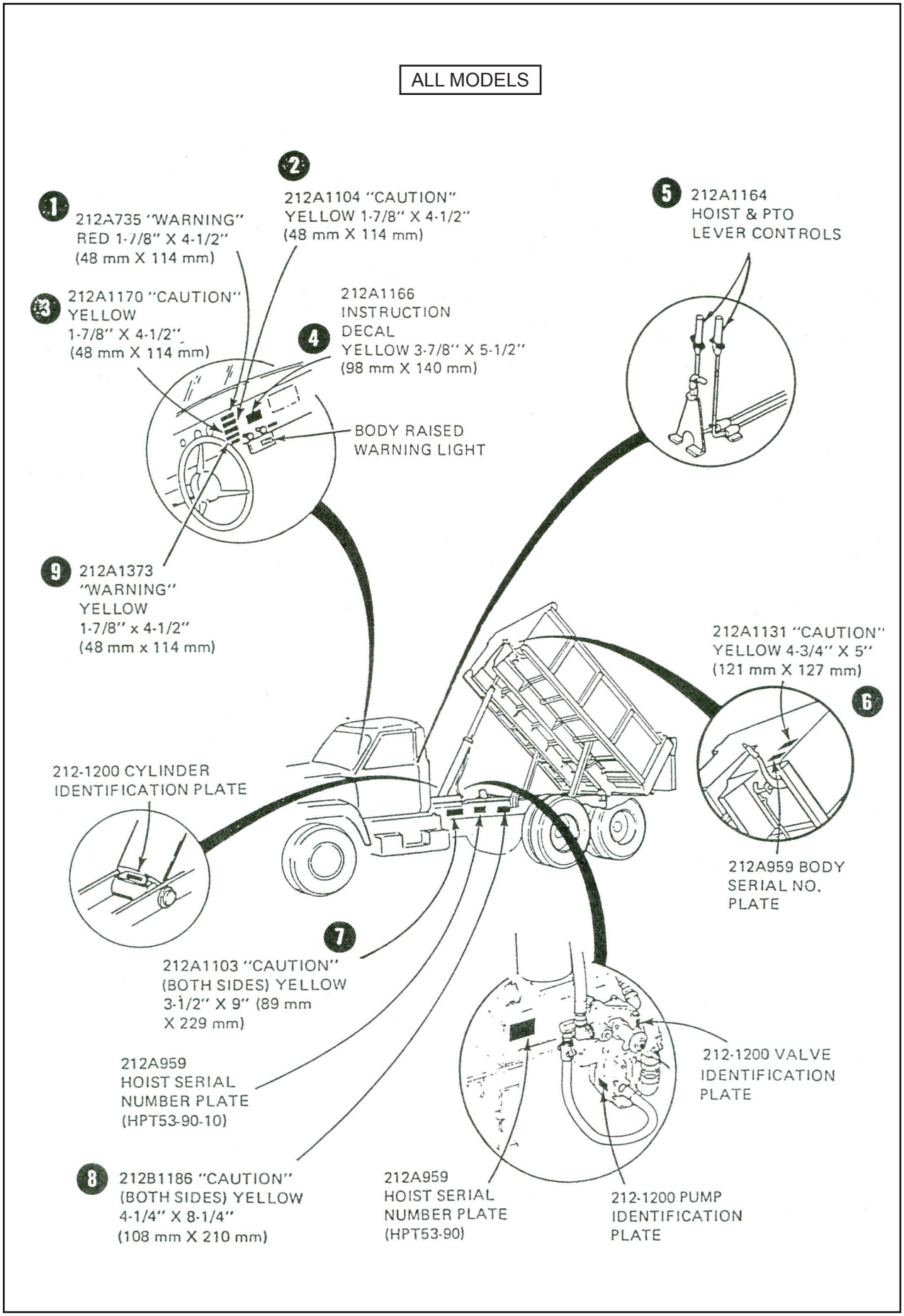


Figure 29. Decals and Serial Number Plates

"The DuraClass, as manufacturer of the equipment that is covered by this manual, is providing a product to the user who has acknowledged to have superior knowledge of the conditions of the use to which the product will be put. The DuraClass relies upon the user's superior knowledge in specifying any changes or modifications including, but not limited to, the inclusion or non-inclusion of options that are required by the user and the DuraClass product, and for the particular application of the user relative to the DuraClass product."