



# Tilt Attachment

For

**Skid Steer Loaders**

**Operator's Manual**  
**Maintenance**  
**Parts Information**



**Read this Manual Before Use**

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## REFERENCE INFORMATION

Write the serial number for your attachment in the spaces below. Always refer to this serial number when calling for service or parts.

Serial Number.....\_\_\_\_\_

## YOUR ATTACHMENT DEALER

\_\_\_\_\_  
ADDRESS:

\_\_\_\_\_  
PHONE:

\_\_\_\_\_  
CONTACT:

\_\_\_\_\_

**NOTE:** *Erskine Attachments LLC reserves the right to make improvements in design or changes in specifications at any time without notice and without incurring any obligations to install them on units previously sold.*

# SAFETY

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**DO NOT use or perform maintenance on this machine until this manual has been read and understood. In addition, read the Operation and Maintenance Manual(s) pertaining to the attachment and the attachment carrier (“Loader”).**

The user is responsible for inspecting the machine daily, and for having parts repaired or replaced when continued use of the machine would cause damage, excessive wear to other parts or make the machine unsafe for continued operation.

If an operating procedure, tool device, maintenance or work method not specifically recommended is used, you must satisfy yourself that it is safe for you and others. You must also ensure that the attachment will not be damaged or made unsafe by the procedures you choose.

Erskine Attachments LLC cannot anticipate every possible circumstance that might involve potential hazard. The safety messages found in this manual and on the machine are therefore not all inclusive.

Throughout this manual, reference may be made to the left hand (LH) and right hand (RH) side. These terms are used as viewed from the operator’s seat facing front.

The signal words **CAUTION**, **WARNING**, or **DANGER** are used to indicate hazards.

**⚠ CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**⚠ WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**⚠ DANGER** Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

The word **IMPORTANT** is used in the text when immediate damage will occur due to improper technique or operation.

The word **NOTE** is used to convey information that is out of context with the manual text; special information such as specifications, techniques, reference information, and other information of a supplementary nature.

## Improper operation can cause serious injury or death.

### Pre-operation

- This machine is designed to control the lateral tilt of attachments. **NEVER** use this machine for any other purpose.
- Read the operator's manual for the "Skid Steer Loader." **NEVER** allow untrained people to operate.
- Operating instructions must be given to everyone before operating this attachment and at least once a year thereafter in accordance with OSHA regulations.
- **NEVER** exceed the maximum recommended input power or speed specifications for the attachment. Over-powering or over-speeding the attachment may cause personal injury and/or machine damage.
- Keep all shields, guards, and covers in place.
- Do not modify equipment or add attachments that are not approved by Erskine Attachments LLC.
- Use adequate safety warning lights and devices as required by local regulations. Obey all local laws and regulations regarding machine operation on public property.

### Operation

- Hydraulic connections may be hot after use. Use gloves if connecting or disconnecting after use.
- Check and be sure all operating controls are in neutral before starting the engine.
- Keep people away from loader and attachment when in use. This attachment has moving parts.

### Operation (continued)

- **NEVER** operate near embankments or terrain that is so steep that rollover could occur.
- Always stay in the operator position when using the attachment.
- Before leaving the operators position, disengage hydraulic drive, lower the attachment to rest flat on the ground, stop engine, relieve hydraulic pressure to attachment, set park brake, and wait for all motion to stop.
- **NEVER** place hands near moving parts or clear debris while engine is running.

### Avoid High Pressure Fluids Hazard



- Escaping fluid under pressure can penetrate the skin causing serious injury.
- Avoid the hazard by relieving the pressure before disconnecting hydraulic lines.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks. Wear protective gloves and safety glasses or goggles when servicing or performing maintenance on hydraulic systems.
- If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

### Maintenance

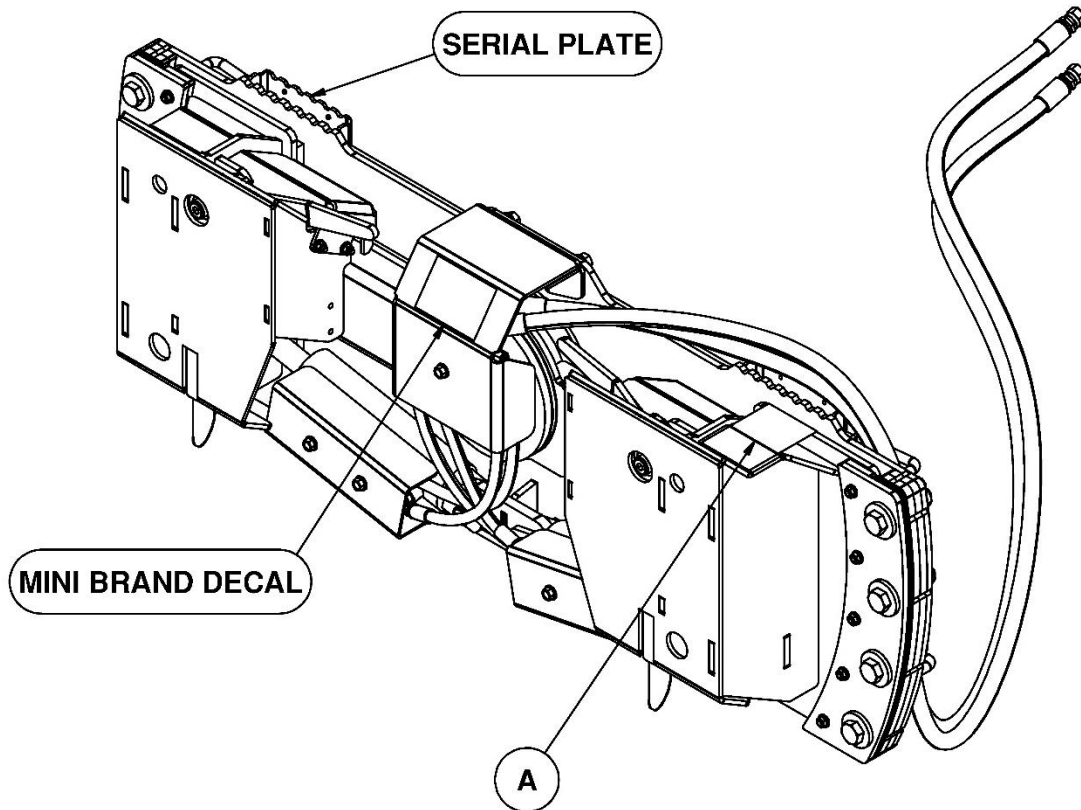
- **NEVER** make adjustments, lubricate, clean, or perform any service on the machine while it is in operation.
- Make sure the attachment is serviced on a daily basis. Improper maintenance can cause serious injury or death in addition to damage to the attachment and/or your equipment.

# SERIAL NUMBER AND SAFETY DECAL LOCATIONS

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## Serial Number Location:

It is important to refer to the serial number of the attachment when making repairs or ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use different procedures in doing a specific operation.



# SERIAL NUMBER AND SAFETY DECAL LOCATIONS

## Safety Decals Locations:

The locations of the safety decals are shown. If these decals are missing, damaged, or painted over they must be replaced. Call Erskine Attachments LLC (218-435-4045) for replacement decals.

A



### Mini Brand Decal

**Location:** On center shield

**Quantity:** 1

**Part number:** 200001

**Location:** On left mount plate

**Quantity:** 1

# USER'S MOUNTING INSTRUCTIONS

**⚠ WARNING** Coupler wedges or pins must extend through holes in attachment. Levers must be fully down and locked. Failure to secure wedges or pins can allow the attachment to come off and cause injury or death.



1. Use the step, safety treads, and grab handles to get on and off the loader and attachment.
2. Sitting in the operator's seat, lower seat bar (if so equipped) and fasten the seat belt.
3. Drive the loader to the rear of the tilt attachment. Put the loader quick attach coupler into the tilt attachment mounting bracket.
4. Tilt the loader coupler backward until it is fully engaged in the tilt attachment mounting bracket.
5. Engage the coupler locking mechanism that attaches the attachment to the loader.
6. Connect the hydraulic quick couplers from the tilt attachment to the loader.

**IMPORTANT:** Make sure hoses are properly routed to fit your specific loader. If the hoses are not routed correctly, hoses may get pinched or rub on tires. Be sure to check hose routing through the full range of intended motion of the attachment before operating it. More than one routing may be acceptable depending on the loader. Pick the routing that best suits your loader.

**IMPORTANT:** Proper hose routing is the responsibility of the owner and/or operator. Pinched or stretched hoses are not covered under warranty.



7. Drive the loader to the rear of the attachment. Put the tilt attachment mounting plate into the attachment mounting bracket.
8. Tilt the loader coupler backward a small amount until it is fully engaged in the attachment mounting bracket.
9. Stop the engine and engage the park brake.
10. Secure the coupler locking mechanism that attaches the attachment to the tilt attachment.
11. If mounting an attachment requiring the auxiliary hydraulic package, continue to step 12. If mounting a standard attachment, mounting is now complete and the attachment is ready for operation. Use the reverse order of above instructions to dismount attachment and tilt attachment from loader.



## USER'S MOUNTING INSTRUCTIONS

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12. Connect the wire harness from the tilt attachment to the loader's wire harness receptacle. (Disregard if a pistol grip controller is supplied with the attachment.)



13. Connect the hydraulic quick couplers from the attachment to the top of the tilt attachment auxiliary hydraulic valve.



14. Mounting is now complete and the attachment is ready for operation. Use the reverse order of above instructions to dismount attachment and tilt attachment from loader.



# OPERATING INSTRUCTIONS

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## Operating Tilt Attachment - Standard

1. With the operator in the loader seat, seat belt fastened, and seat bar lowered (if so equipped), start the engine.
2. Activate the loader auxiliary hydraulics in the forward and reverse directions to tilt the attachment side to side.
3. Once the desired tilt angle is achieved, resume normal operation of the attachment.



# OPERATING INSTRUCTIONS

**NOTE:** Skid steer loader controls vary from machine to machine. Read the loader's operator's manual to become familiar with the loader control functions. Certain loaders may require a special harness jumper wire to operate correctly.

## Operating the Tilt Attachment - Aux Pkg

On tilt attachment models equipped with the optional auxiliary hydraulic package, the unit is equipped with an electrically actuated diverter valve, which can send hydraulic oil to one of two paths. The primary (default) path is to the main attachment. The secondary path is to the tilt attachment.

To operate the tilt attachment:

1. Stop auxiliary hydraulic flow to main attachment.

**IMPORTANT:** Do not attempt to energize the diverter valve while the auxiliary hydraulic flow is on. Always stop hydraulic flow before operating tilt function.

2. **Push and HOLD** the button that energizes the diverter valve (usually on the left handle).
3. While holding the button, operate the auxiliary hydraulics in the forward and reverse directions to tilt the attachment side to side.
4. Release the button to de-energize the diverter valve, and resume operation of the main attachment.

**NOTE:** If tilt attachment does not tilt, experiment with other buttons until the button energizing the diverter valve is found. If no button is found to energize the diverter valve and activate the tilt function, use a 12 volt test light to identify the correct button and confirm that power is reaching the valve coil.



**PUSH AND HOLD TO ENERGIZE DIVERTER**



**PUSH AND HOLD TO ENERGIZE DIVERTER  
(OPTIONAL PISTOL GRIP HARNESS SHOWN)**



**OPERATE AUX HYDRAULICS TO TILT**





# ROUTINE MAINTENANCE

**⚠ WARNING** Lower the attachment to rest flat on the ground, shut down the engine, relieve the hydraulic pressure to the attachment, set the park brake, and wait for all motion to stop before leaving the operator's seat to perform service of any kind.



It is the operator's responsibility to make daily inspections of the loader and attachment for damage, loose bolts, fluid leaks, or anything else that could cause a potential service or safety problem. Preventive maintenance is the easiest and least expensive type of maintenance.

**IMPORTANT:** Bolts can loosen after initial usage. After the first hour of operation check all bolts.

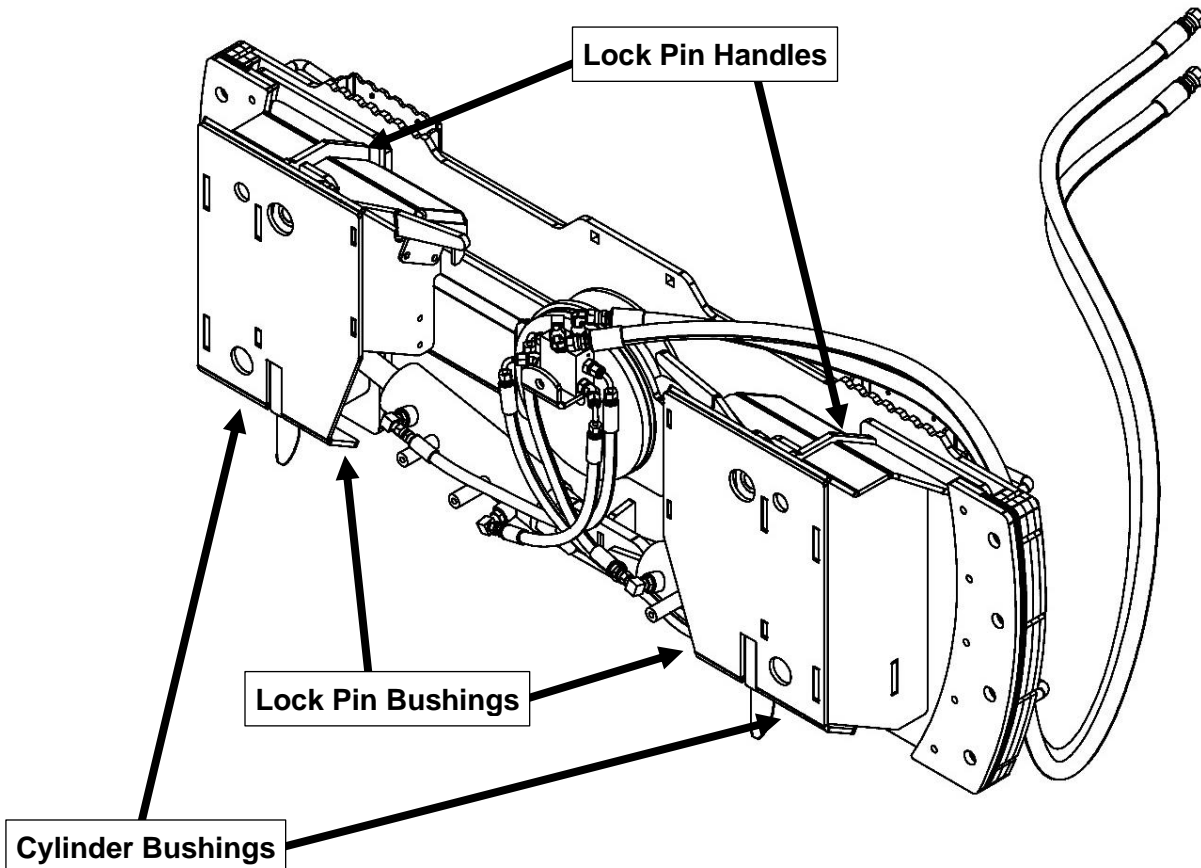
## LUBRICATION

<b>Lubrication Legend</b>	 Multipurpose spray lube	 No. 2 Lithium base gun grease	 Clean engine oil	 Intervals at which lubrication is required

Use No. 2 lithium base gun grease when lubricating all attachment grease fittings.

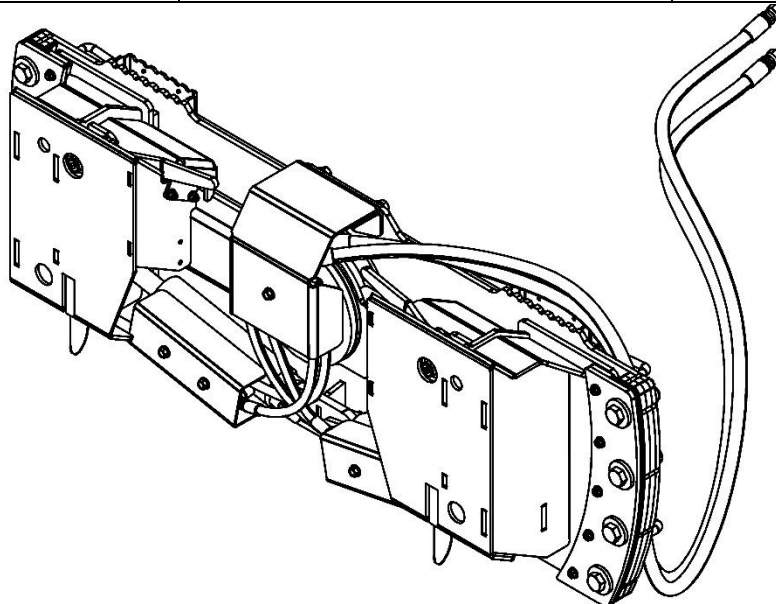
	
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Grease all six pivot point zerks every **40 hours** of operation.

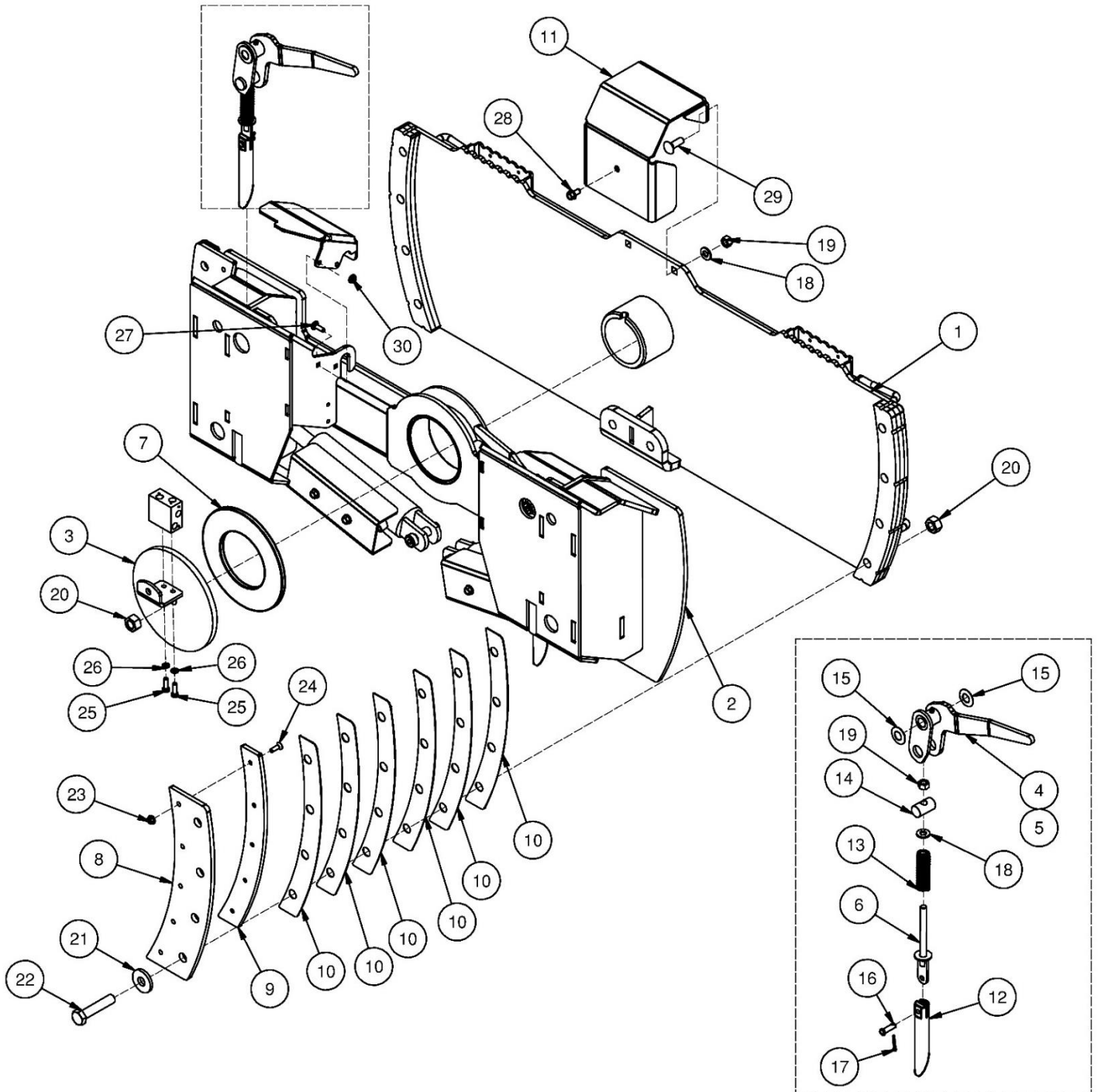


## PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
1	1	316597	MOUNT PLATE TILT ATTACH W/A	
2	1	316598	FRAME MOUNT PIVOT W/A	
3	1	316599	PIVOT DISK RETAINER W/A Z	
4	1	316502	HANDLE PIN LATCH RH W/A Z	
5	1	316503	HANDLE PIN LATCH LH W/A Z	
6	2	316507	EYE BOLT 1/2 X 7 W/A Z	
7	1	501800	WASHER UHMW 5 X 9 X .38	
8	2	316562	PLATE RETAINER CURVE .38 Z	
9	1	501801	PLATE UHMW GUIDE CURVE LH	
	1	501802	PLATE UHMW GUIDE CURVE RH	NOT SHOWN
10	12	316564	PLATE SHIM CURVE .06 Z	
11	1	316596	BRKT SHIELD VALVE PAINTED	
12	2	316567	PIN 1.13 X 6.75 W/ANGLE Z	
13	2	300458	SPRING COMP 1.0 OD X 3.5	
14	2	316566	PIN 1 X 1.75 W/HOLE Z	
15	4	124016	WASHER BELLEVILLE 3/4 X 1.5 OD	
16	2	0156749	PIN CLEVIS .38 X 1.25 Z	
17	2	65076	PIN COTTER 1/8 X 1	
18	4	33011	WASHER FLAT USS	1/2 PLAIN
19	4	37214	NUT REV LOCK	1/2 NC GR 5
20	9	38067	NUT TOP LOCK	3/4 NC GRD 9
21	8	316565	WASHER PLATE .78 X 2.0 X .25 Z	
22	8	13367	BOLT HEX	3/4 X 3-1/2 NC GR 5
23	10	0166987	NUT TOP LOCK FLNG	5/16 NC GR F (GR5)
24	10	94256	BOLT FHSCS	
25	2	13055	BOLT HEX	5/16 X 1 NC GR 5
26	2	33620	WASHER LOCK	5/16"
27	4	21811	BOLT CARRIAGE	5/16 X 1 NC GR5
28	5	19929	BOLT FLNG SERRATED	3/8 X 3/4 NC GR2 Z
29	2	200012	BOLT CARRIAGE	1/2 X 1-1/2 NC GR 5
30	4	37339	NUT FLNG SERRATED	5/16-18 NC

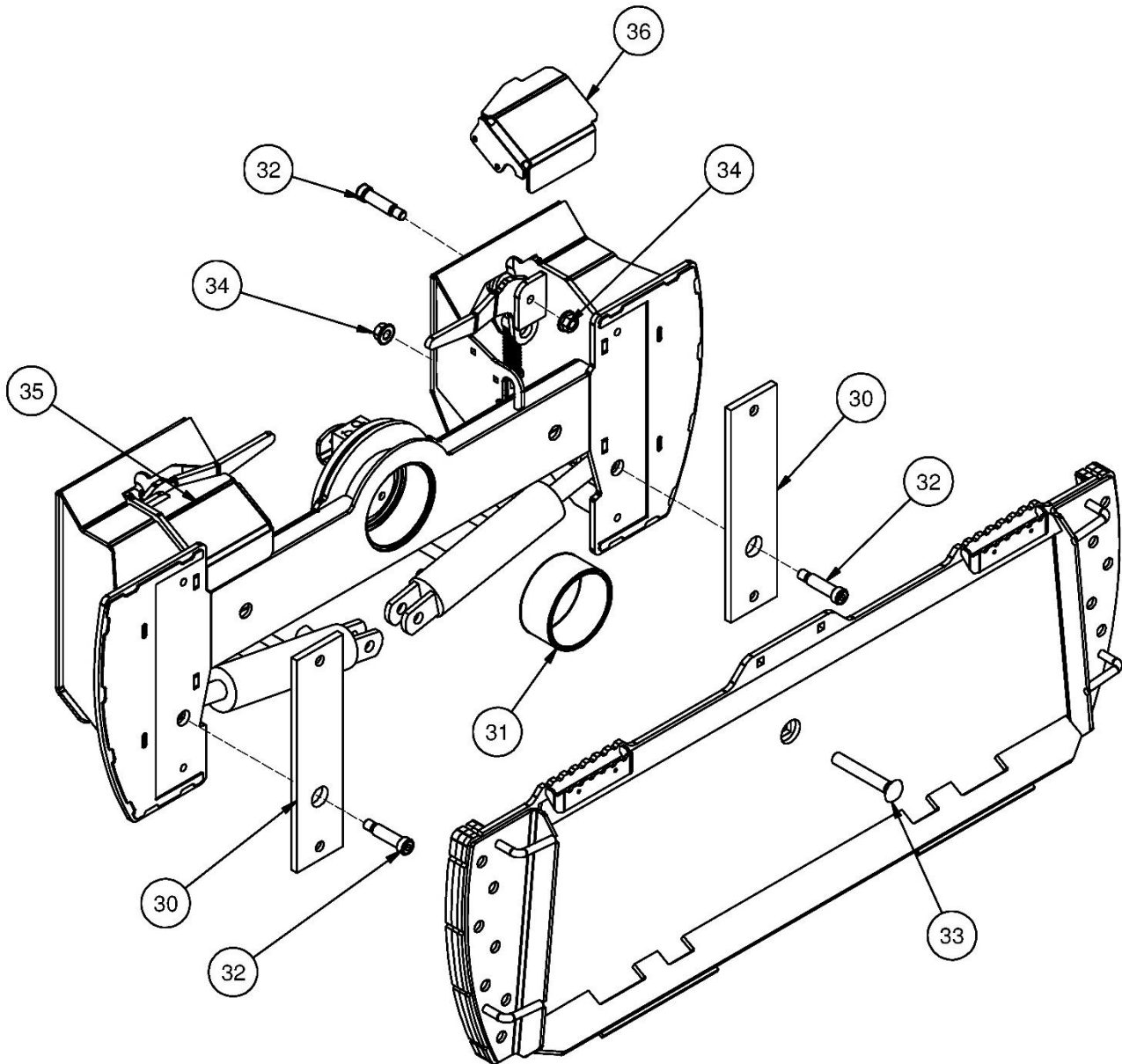


# PARTS INFORMATION



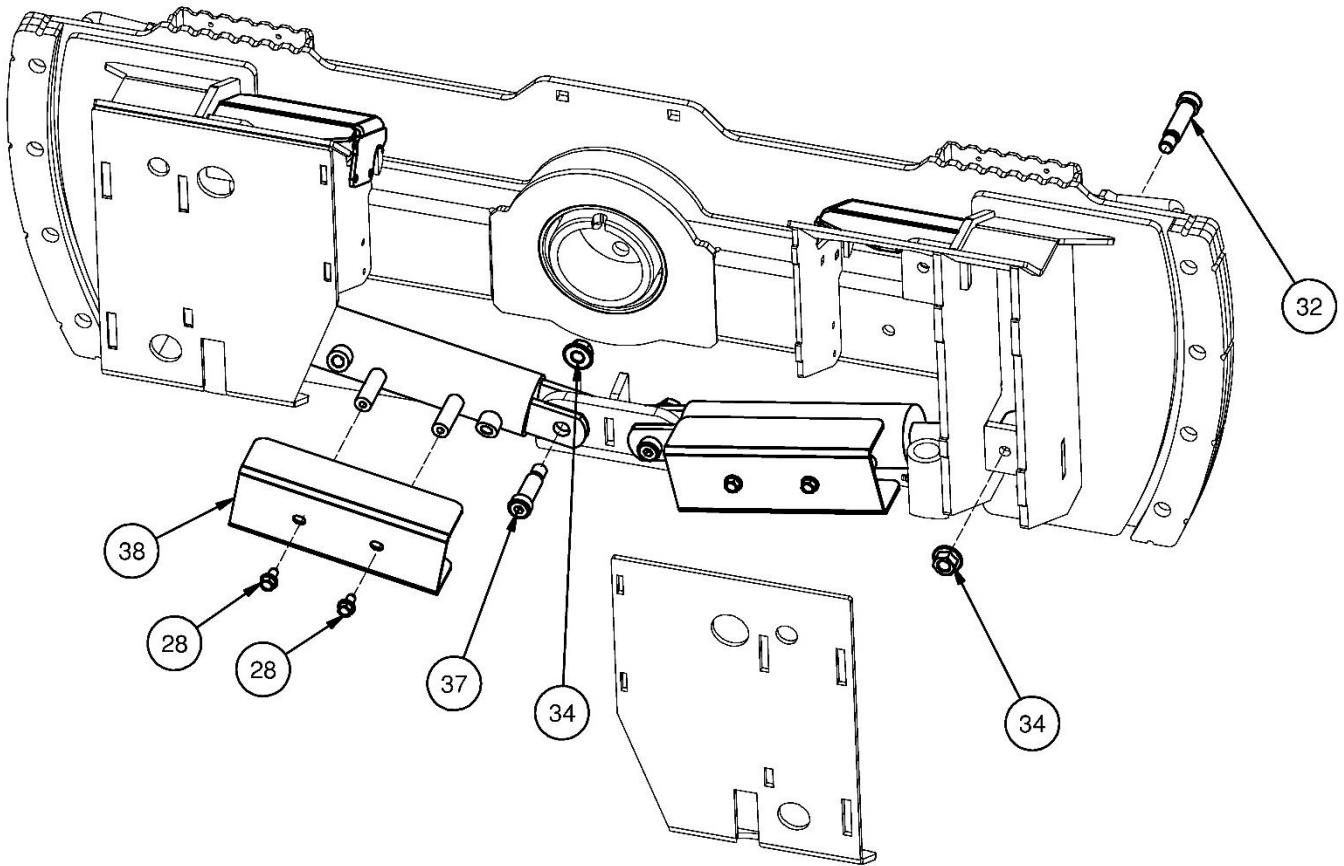
## PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
30	2	316547	PLATE NYLON GUIDE 4 X 16	
31	1	316545	BUSH NYLON 5.5 X 5 X 2.5	
32	4	26392	BOLT SHOULDER	3/4 X 2-1/4 NC 5
33	1	21910	BOLT CARRIAGE	3/4 X 5 NC GR 5
34	4	37349	NUT FLG SERRATED	5/8-11 NC
35	1	316676	BRKT COVER LATCH PINS LH PAINTED	
36	1	316678	BRKT COVER LATCH PINS RH PAINTED	



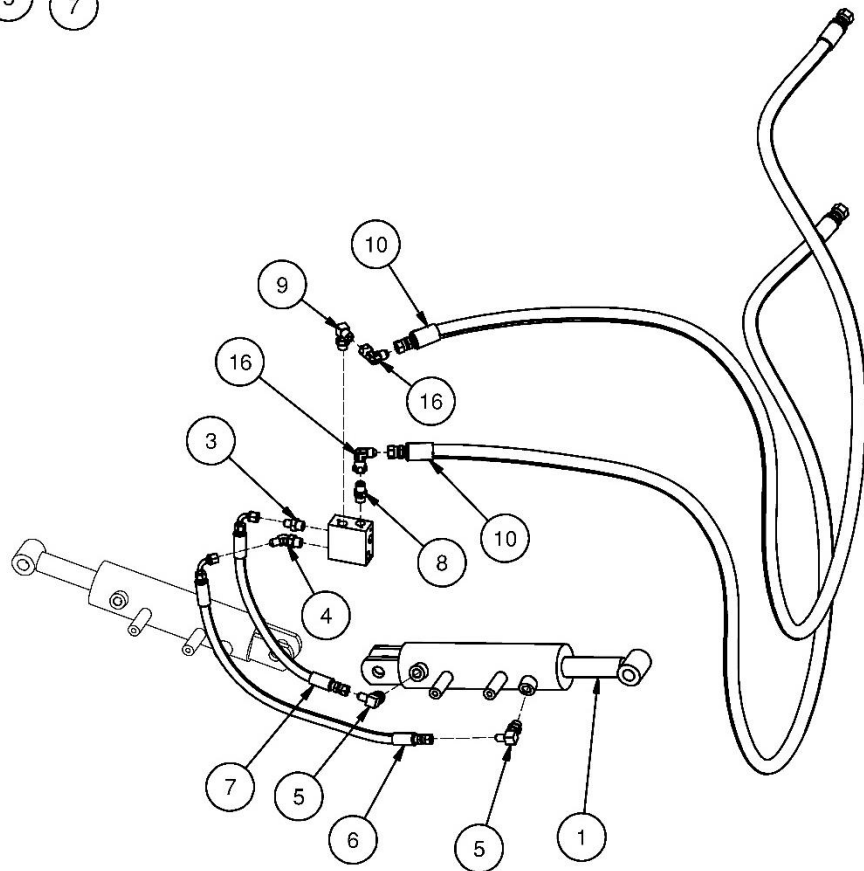
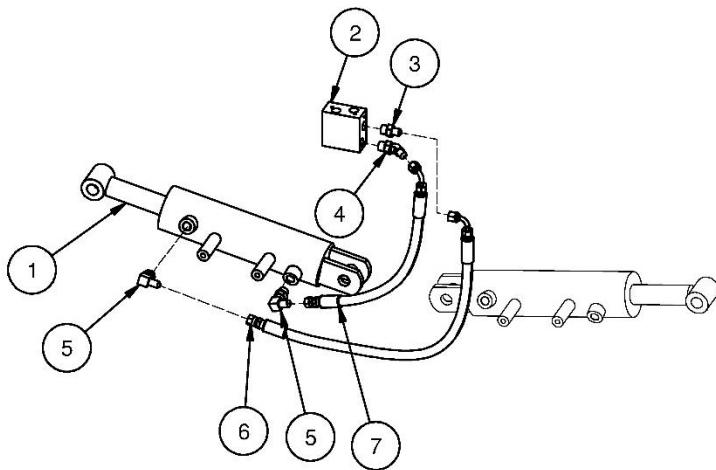
# PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
28	4	19929	BOLT FLNG SERRATED	3/8 X 3/4 NC GR2 Z
32	2	26392	BOLT SHOULDER	3/4 X 2-1/4 NC 5
34	4	37349	NUT FLG SERRATED	5/8-11 NC
37	2	26390	BOLT SHOULDER	3/4 X 1-3/4 NC 5
38	2	312273	SHIELD CYLINDER 3 X 6 PAINTED	



# PARTS INFORMATION

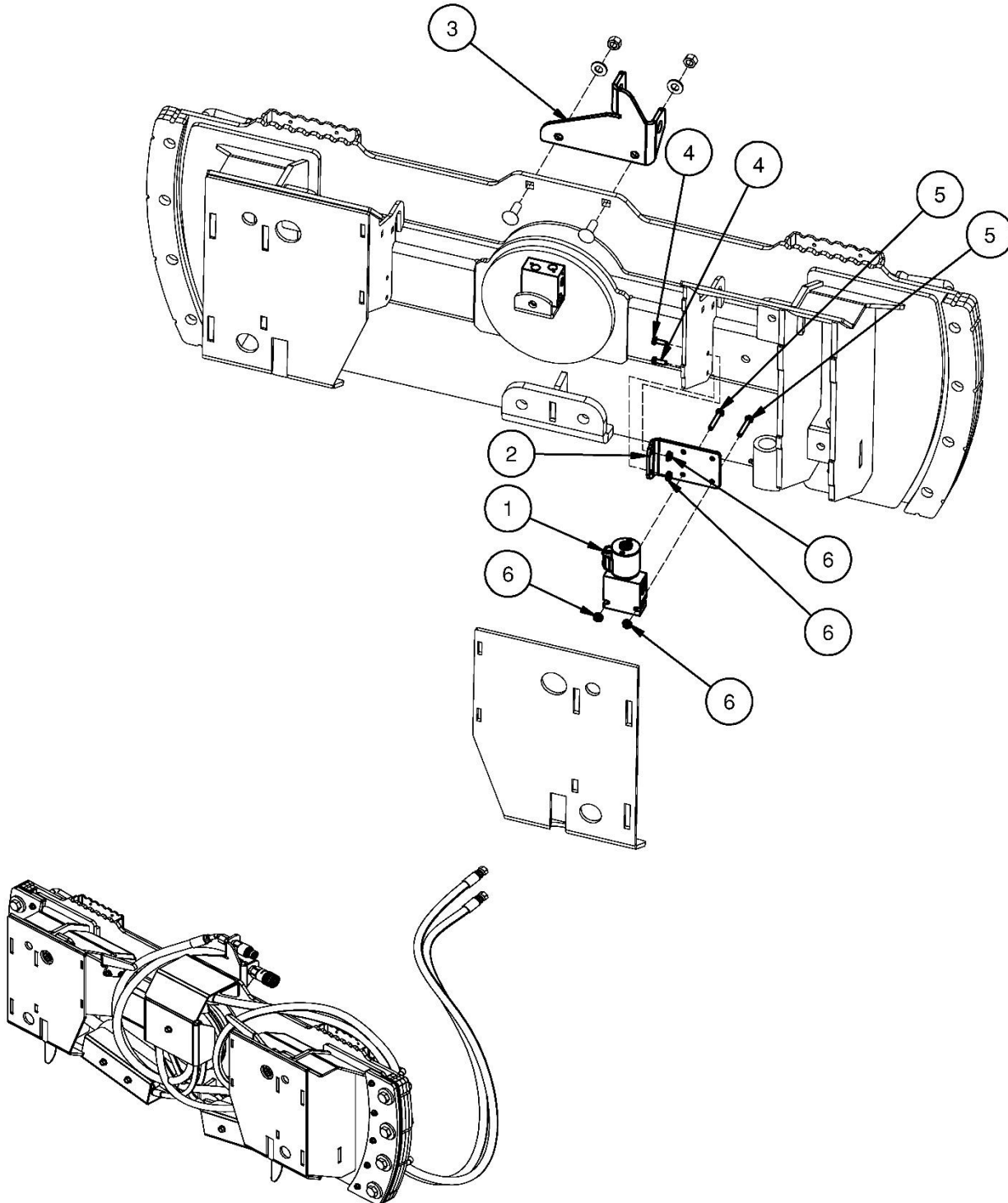
ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
1	2	316699	CYLINDER 2.5 X 6 C-B	
2	1	312326	BLOCK JUNCTION HYD	
3	2	201521	ADPT STR 6MB-4MJ	BLOCK - CYL
4	2	320213	ADPT ELB 6MB-4MJ-45	BLOCK - CYL
5	4	320353	ADPT ELB 8MB-4MJ-90	CYLINDERS
6	2	316692	HOSE 1/4 X 25 4FJX-4FJX90	BLOCK - CYL
7	2	316693	HOSE 1/4 X 16 4FJX-4FJX90	BLOCK - CYL
8	1	300657	ADPT RESTRICTOR 6MB-6MJ-1/16	BLOCK - LEAD
9	1	201539	ADPT ELB 6MB-6MJ-90	BLOCK - LEAD
10	2	316691	HOSE 1/2 X 90 8FJX-6FJX	LEAD
16	2	314827	ADPT ELB 6MJ-6FJX-90	BLOCK - LEAD





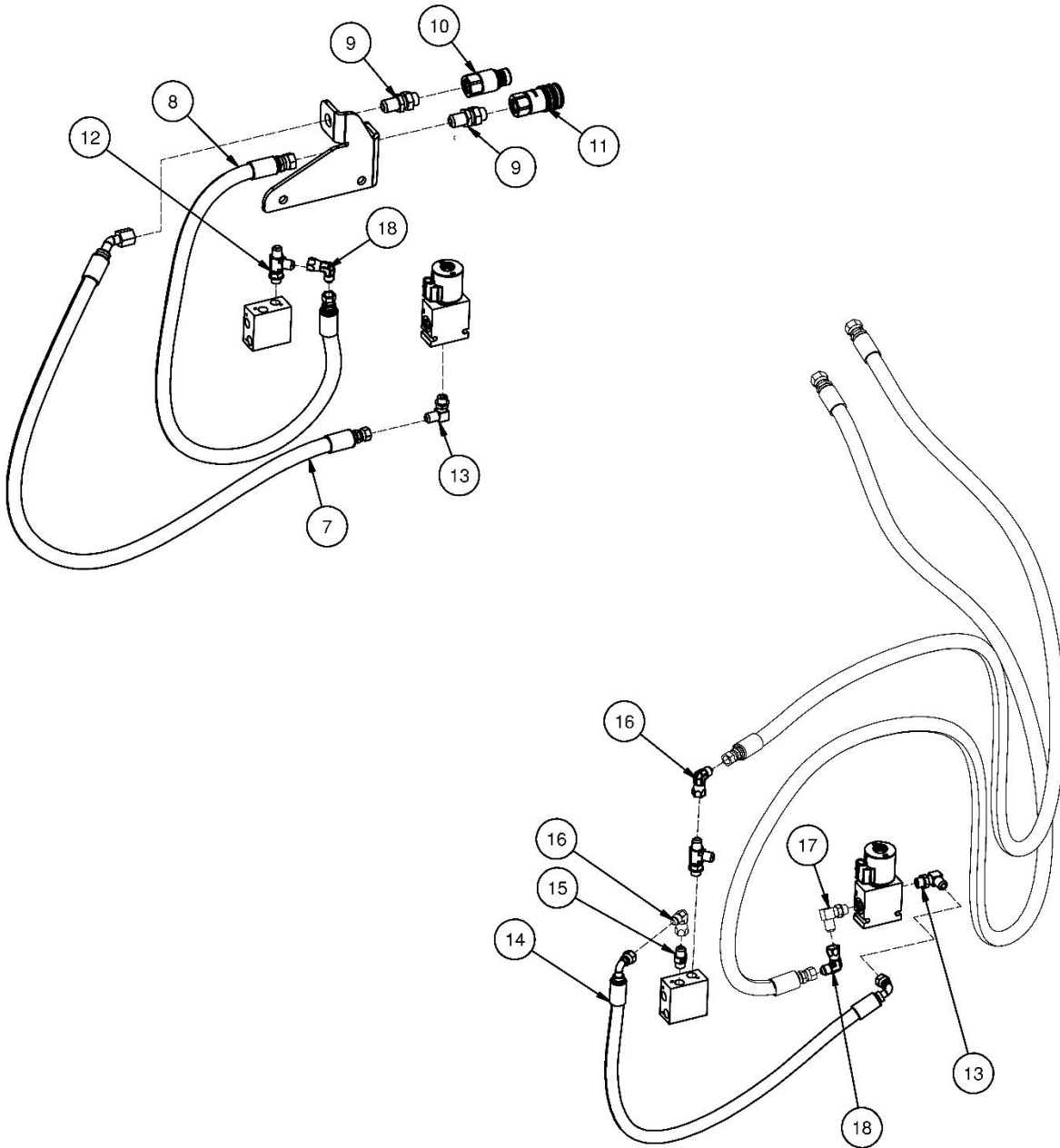
# PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
		<b>316680</b>	<b>PKG OPT HYD AUX COUPLERS V2</b>	
1	1	314752	VALVE ASSM SELECTOR ELEC CP	
2	1	316681	BRKT MOUNT VALVE DIVERTER PAINTED	
3	1	316594	BRKT MOUNT COUPLERS PAINTED	
4	2	13003	BOLT HEX	1/4 X 3/4 NC GR 5
5	2	13802	BOLT HEX	1/4 X 1-3/4 NC GR 5
6	4	37337	NUT FLG SERRATED	1/4 NC



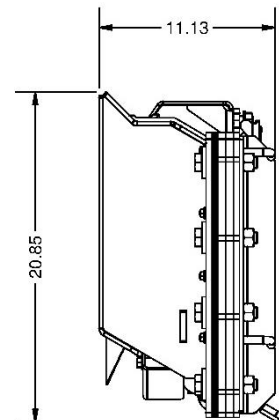
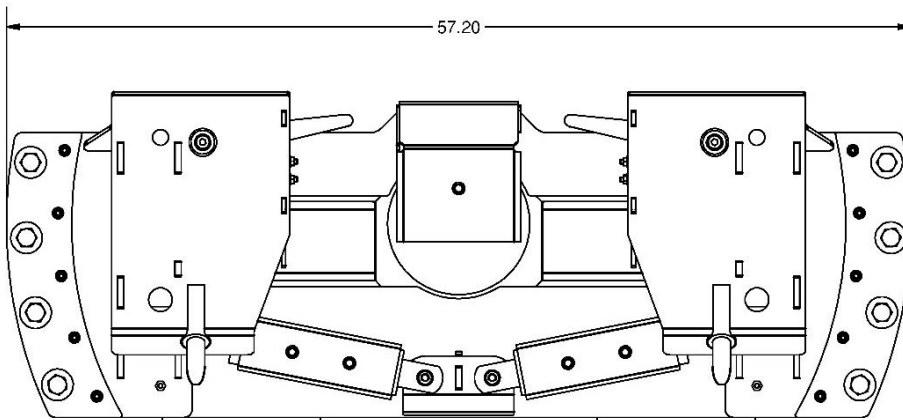
# PARTS INFORMATION

ITEM	QTY	PART NO.	DESCRIPTION	STOCK NO.
		<b>316680</b>	<b>PKG OPT HYD AUX COUPLERS V2</b>	
7	1	316688	HOSE 1/2 X 42 6FJX-8FJX45	VALVE - COUPLER
8	1	316687	HOSE 1/2 X 42 8FJX-6FJX	BLOCK - COUPLER
9	2	330723	ADPT STR 8MB-8MJ BULKHEAD	COUPLER MOUNT
10	1	330645	COUPLER HYD 1/2-08FB M FF	COUPLER MOUNT
11	1	330646	COUPLER HYD 1/2-08FB FM FF	COUPLER MOUNT
12	1	330871	ADPT TEE 6MJ-6MB-6MJ	BLOCK - 316687
13	2	201539	ADPT ELB 6MB-6MJ-90	VALVE - 316688
14	1	316686	HOSE 3/8 X 30 6FJX90-6FJX90 (45° OFFSET)	BLOCK - VALVE
15	1	300657	ADPT RESTRICTOR 6MB-6MJ-1/16	FROM STANDARD KIT
16	2	314827	ADPT ELB 6MJ-6FJX-90	FROM STANDARD KIT
17	1	201539	ADPT ELB 6MB-6MJ-90	FROM STANDARD KIT
18	2	314827	ADPT ELB 6MJ-6FJX-90	



# GENERAL SPECIFICATIONS

Model	Tilt Attachment
Operating Weight	415 lbs.
Overall Width	57.2"
Overall Height	20.9"
Overall Length	11.13"
Oscillation	+/- 17°



All dimensions are in INCHES.

# BOLT TORQUE INFORMATION

## Torque-Tension Relationships for SAE J429 Grade Bolts

Nominal Thread Size	SAE J429 Grade 2			SAE J429 Grade 5			SAE J429 Grade 8		
	Clamp Load (lbs)	Tightening Torque		Clamp Load (lbs)	Tightening Torque		Clamp Load (lbs)	Tightening Torque	
		K = .15	K = .20		K = .15	K = .20		K = .15	K = .20
<b>Unified Coarse Thread Series</b>									
1/4-20	1,300	49 in-lbs	65 in-lbs	2,000	75 in-lbs	100 in-lbs	2,850	107 in-lbs	143 in-lbs
5/16-18	2,150	101	134	3,350	157	210	4,700	220	305
3/8-16	3,200	15 ft-lbs	20 ft-lbs	4,950	23 ft-lbs	31 ft-lbs	6,950	32.5 ft-lbs	44 ft-lbs
7/16-14	4,400	24	30	6,800	37	50	9,600	53	70
1/2-13	5,850	36.5	49	9,050	57	75	12,800	80	107
9/16-12	7,500	53	70	11,600	82	109	16,400	115	154
5/8-11	9,300	73	97	14,500	113	151	20,300	159	211
3/4-10	13,800	129	173	21,300	200	266	30,100	282	376
7/8-9	11,425	125	166	29,435	321	430	41,550	454	606
1-8	15,000	187.5	250	38,600	482.5	640	54,540	680	900
<b>Unified Fine Thread Series</b>									
1/4-28	1,500	55 in-lbs	75 in-lbs	2,300	85 in-lbs	115 in-lbs	3,250	120 in-lbs	163 in-lbs
5/16-24	2,400	112	150	3,700	173	230	5,200	245	325
3/8-24	3,600	17 ft-lbs	22.5 ft-lbs	5,600	26 ft-lbs	35 ft-lbs	7,900	37 ft-lbs	50 ft-lbs
7/16-20	4,900	27	36	7,550	42	55	10,700	59	78
1/2-20	6,600	41	55	10,200	64	85	14,400	90	120
9/16-18	8,400	59	79	13,000	92	122	18,300	129	172
5/8-18	10,600	83	110	16,300	128	170	23,000	180	240
3/4-16	15,400	144	193	23,800	223	298	33,600	315	420
7/8-14	12,610	138	184	32,480	355	473	45,855	500	668
1-12	16,410	205	273	42,270	528	704	59,670	745	995

Clamp load estimated as 75% of proof load for specified bolts.

Torque values for 1/4 and 5/16 inch series are in inch-pounds. All other torque values are in foot-pounds.

Torque values calculated from formula  $T = KDF$

where:  $K=0.15$  for "lubricated" conditions

$K=0.20$  for "dry" conditions





## LIMITED WARRANTY

Erskine Attachments LLC warrants each new machine manufactured by us to be free from defects in material and workmanship for a period of twenty-four (24) months from date of delivery to the original purchaser.

Our obligation under this warranty is to replace free of charge, at our factory or authorized dealership, any part proven defective within the stated warranty time limit.

All parts must be returned freight prepaid and adequately packaged to prevent damage in transit.

This warranty does not cover:

1. New products which have been operated in excess of rated capacities or negligence
2. Misuse, abuse, accidents or damage due to improperly routed hoses
3. Machines which have been altered, modified or repaired in any manner not authorized by our company
4. Previously owned equipment
5. Any ground engaging tools in which natural wear is involved, i.e. tooth tips, cutting teeth, etc
6. Normal maintenance
7. Fork tines
8. Hydraulic motors that have been disassembled in any manor

In no event will the Sales Representative, Dealership, Erskine Attachments LLC, or any other company affiliated with it or them be liable for incidental or consequential damages or injuries, including but not limited to the loss of profit, rental or substitute equipment or other commercial loss. Purchaser's sole and exclusive remedy being as provided here in above.

Erskine Attachments LLC must receive immediate notification of defect and no allowance will be made for repairs without our consent or approval.

This warranty is in lieu of all other warranties, express or implied by law or otherwise, and there is no warranty of merchantability or fitness purpose.

No agent, employee, or representative of Erskine Attachments LLC has any authority to bind Erskine Attachments LLC to any warranty except as specifically set forth herein. Any of these limitations excluded by local law shall be deemed deleted from this warranty; all other terms apply.

This warranty may not be enlarged or modified in any manner except in writing signed by an executive officer of Erskine Attachments LLC to improve its products whenever it is possible and practical to do so. Erskine Attachments LLC reserves the right to make changes and or add improvements at any time without incurring any obligation to make such changes or add such improvements to products previously sold.

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**P/N 316510**  
Erskine Attachments LLC

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