USER MANUAL

35A

Integral Sideshifter

Manual Number 6807533-R2

cascade® corporation

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INTRODUCTION

This User Manual is for Cascade Integral Sideshifters. Contents include an Operator's Guide, Installation Instructions, Periodic Maintenance and Recommended Spare Parts. All specifications are shown in US and (Metric) units where applicable.

IMPORTANT: 35A Sideshifter ports are SAE (9/16 in. x 18 UNF) for No. 6 O-ring fittings with 9/32 in. (7 mm) minimum ID.

WARNING: Rated capacity of the truck/attachment combination is a responsibility of the original truck manufacturer and may be less than shown on the attachment nameplate. Consult the truck nameplate.

WARNING: Do not operate this attachment unless you are a trained and authorized lift truck driver.

Special Definitions

The statements shown appear throughout this Manual where special emphasis is required. Read all WARNINGS and CAUTIONS before proceeding with any work. Statements labeled IMPORTANT and NOTE are provided as additional information of special significance or to make the job easier.

WARNING – A statement preceded by WARNING is information that should be acted upon to prevent **bodily injury**. A WARNING is always inside a ruled box.

CAUTION – A statement preceded by CAUTION is information that should be acted upon to prevent machine damage.

IMPORTANT – A statement preceded by IMPORTANT is information that possesses special significance.

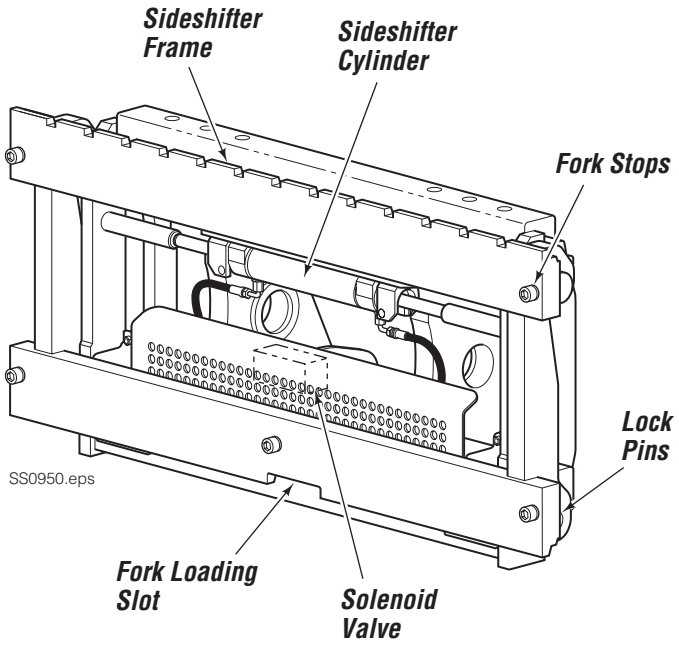
NOTE – A statement preceded by NOTE is information that is handy to know and may make the job easier.

OPERATION

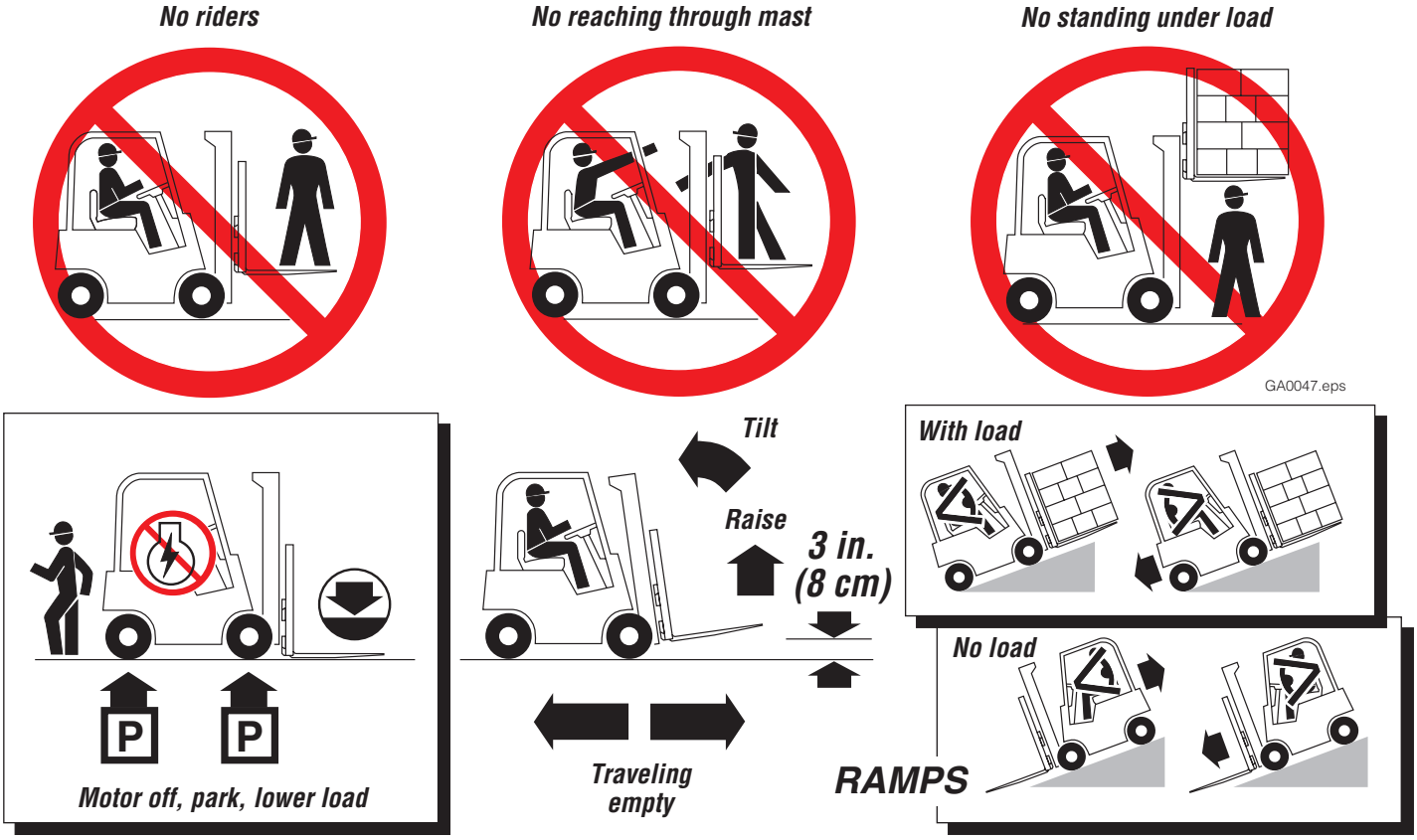
This section contains operating instructions for the Cascade Integral Sideshifters. It will help you avoid common errors which often cause damage to the equipment or product being handled.

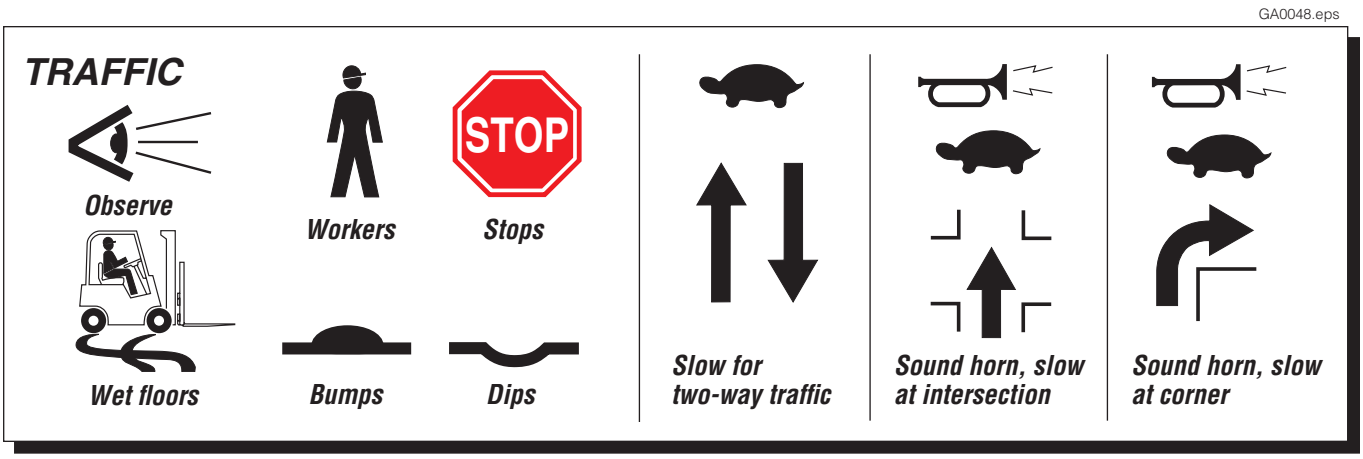
This information is intended to simplify operator understanding about effective and safe sideshifter use and operation. Read this information thoroughly before operating the attachment. Be sure you know and understand all operating procedures and safety precautions. If you have any questions, or don't understand a procedure, ask your supervisor.

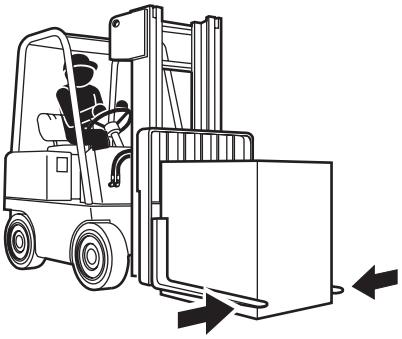
Emphasize Safety! Most accidents are caused by operator carelessness or misjudgment. You must watch for poorly maintained equipment and hazardous situations and correct them.



Safety Rules – Industrial Lift Trucks





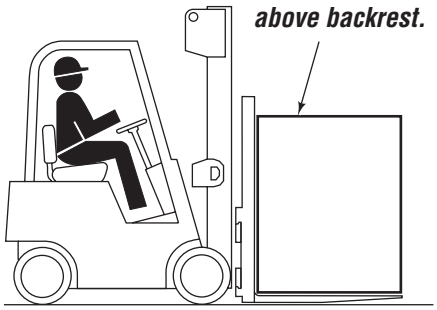


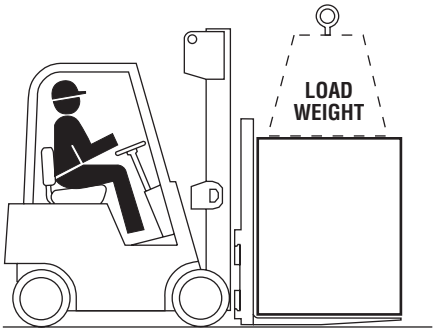
CAUTION: Do not put side loads on forks.

Limit sideshifting with raised load.

Limit truck movement with raised load.

Top of load should not extend above backrest.





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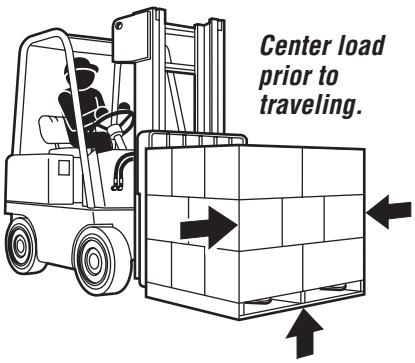
Load weight must not exceed combined truck/ attachment capacity (see truck nameplate).

Total fork capacity (LH + RH fork) must be greater than load weight. Check capacity stamp on forks.

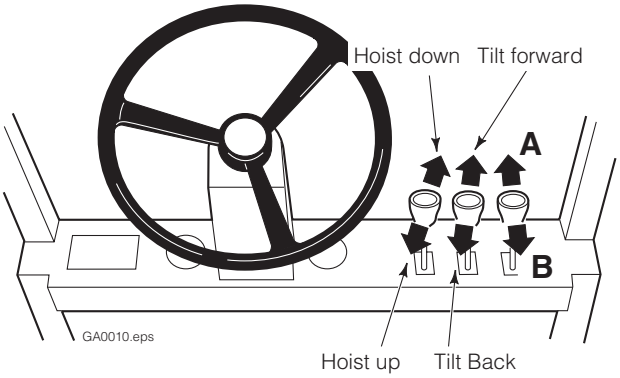


Center load prior to traveling.

Raise load prior to sideshifting.

Sideshifter Operation

AUXILIARY VALVE FUNCTIONS



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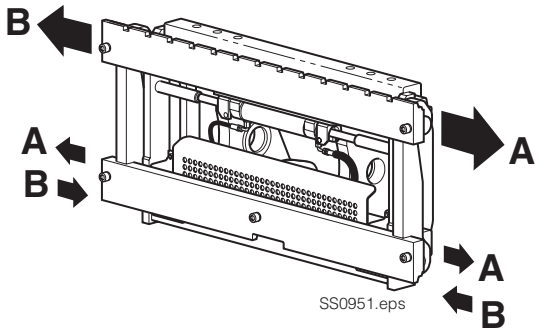
SIDESHIFTING

- ***A*** *Sideshift Left*
- ***A*** *Lock Pins (press button)*
- ***B*** *Sideshift Right*
- ***B*** *Unlock Pins (press button)*



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WARNING: The safe operation and maintenance of industrial trucks is regulated by Occupational Safety and Health (OSHA) regulations 1910.178 and American National Standards Institute (ANSI) Safety Standard for Powered Industrial Trucks, ANSI B56.1. When operating and maintaining industrial trucks equipped with attachments you should pay particular attention to the following sections of these regulations. You should be familiar with **all** sections of these regulations. **Ask your employer for the complete regulations.**

(a) **General Requirement**

(4) Modifications and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturers prior written approval. Capacity, operation and maintenance instruction plates, tags or decals shall be changed accordingly.

(5) If the truck is equipped with front-end attachments other than factory installed attachments, the user shall request that the truck be marked to identify the attachments and show the appropriate weight of the truck and attachment combination at maximum elevation with load laterally centered.

(6) The user shall see that all nameplates and markings are in place and maintained in a legible condition.

(e) **Safety Guards**

(2) If the type of load presents a hazard, the user shall equip fork trucks with a vertical load backrest extension in accordance with (a)(2) following.

(a)(2) All new powered industrial trucks acquired and used by an employer after February 15, 1972 shall meet the design and construction requirements for powered industrial trucks established in the "American National Standard for Powered Industrial Trucks, Part II, ANSI B56.1", except for vehicles intended primarily for earth moving or over-the-road hauling.

(l) **Operator Training**

Only trained and authorized operators shall be permitted to operate a powered industrial truck. Methods shall be devised to train operators in the safe operation of powered industrial trucks.

(m) **Truck Operations**

(1) Trucks shall not be driven up to anyone standing in front of a bench or other fixed object.

(2) No person shall be allowed to stand or pass under the elevated portion of any truck, whether loaded or empty.

(3) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

(4) The employer shall prohibit arms or legs from being placed between the uprights of the mast or outside the running lines of the truck.

(5i) When a powered industrial truck is left unattended, load engaging means shall be fully lowered, controls shall be neutralized, power shall be shut off and brakes set. Wheels shall be blocked if the truck is parked on an incline.

(5ii) A powered industrial truck is unattended when the operator is 25 feet or more away from the vehicle which remains in his view, or whenever the operator leaves the vehicle and it is not in his view.

(5iii) When the operator of an industrial truck is dismounted and within 25 feet of the truck still in his view, the load engaging means shall be fully lowered, controls neutralized and the brakes set to prevent movement.

(6) A safe distance shall be maintained from the edge of ramps or platforms while on any elevated dock or platform or freight car. Trucks shall not be used for opening or closing freight doors.

(10) A load backrest extension shall be used whenever necessary to minimize the possibility of the load or part of it from falling rearward.

(n) **Traveling**

(4) The driver shall be required to slow down and sound the horn at cross isles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

(7i) When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.

(7iii) On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.

(o) **Loading**

(1) Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads which cannot be centered.

(2) Only loads within the rated capacity of the truck shall be handled.

(3) The long or high (including multiple-tiered) loads which may affect capacity shall be adjusted.

(4) Trucks equipped with attachments shall be operated as partially loaded trucks when not handling a load.

(5) A load engaging means shall be placed under the load as far as possible; the mast shall be carefully tilted backward to stabilize the load.

(6) Extreme care shall be used when tilting the load forward or backward, particularly when high tiering. Tilting forward with load engaging means elevated shall be prohibited except to pick up a load. An elevated load shall not be tilted forward except when the load is in a deposit position over a rack or stack. When stacking or tiering, only enough backward tilt to stabilize the load shall be used.

(p) **Operation of the Truck**

(1) If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

(q) **Maintenance of Industrial Trucks**

(1) Any power-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.

(5) All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent as to safety with those used in the original design.

(6) Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts. Additional counter-weighting of fork trucks shall not be done unless approved by the truck manufacturer.

(7) Industrial trucks shall be examined before being placed in service and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examinations shall be made at least daily. When industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects when found shall be immediately reported and corrected.

Truck Requirements

Truck Relief Setting

2000 psi (140 bar) Recommended
3500 psi (240 bar) Maximum

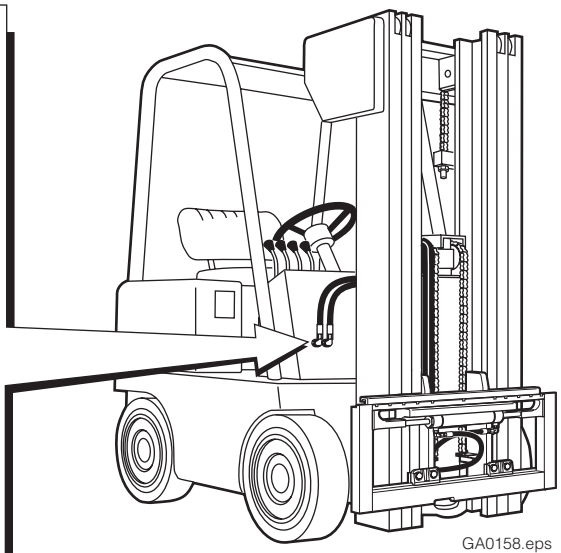
Truck Flow Volume ①

	Min. ②	Recommended	Max. ③
35A	1 GPM (4 L/min.)	2 GPM (7.5 L/min.)	3 GPM (12 L/min.)

① Cascade Integral Sideshifters are compatible with SAE 10W petroleum base hydraulic fluid meeting Mil. Spec. MIL-0-5606 or MIL-0-2104B. Use of synthetic or aqueous base hydraulic fluid is not recommended. If fire resistant hydraulic fluid is required, special seals must be used. Contact Cascade.

② Flow less than recommended will result in slow sideshift speed.

③ Flow greater than maximum can result in excessive heating, reduced system performance and short hydraulic system life.



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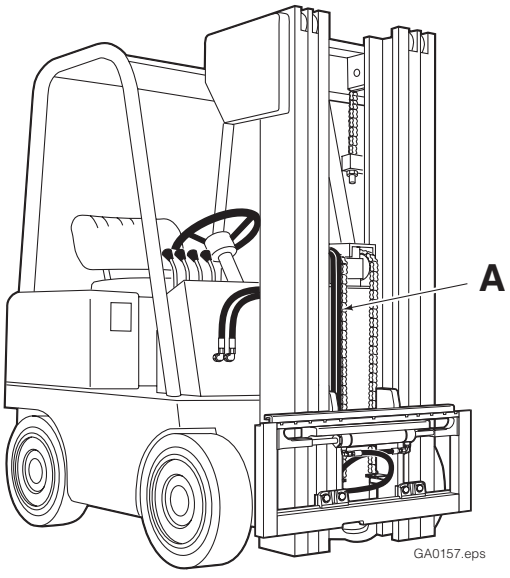
Recommended Hydraulic Supply

The Integral Sideshifter requires the hydraulic supply arrangement shown below. All hoses and fittings should be No. 6 with 7/32 in. (7 mm) minimum ID.



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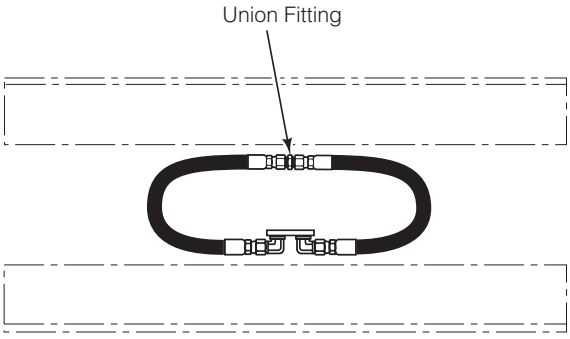
A Mast Single Internal Reeving

Installation Procedure

IMPORTANT: Integral attachment installation is an OEM or dealer responsibility. Some of the following steps may or may not be required, but are shown for reference. Refer to the appropriate service manual for service and repair procedures.

1 Integral Sideshifter carriage should be installed in mast per OEM specifications and procedures.

2 Flush supply hoses



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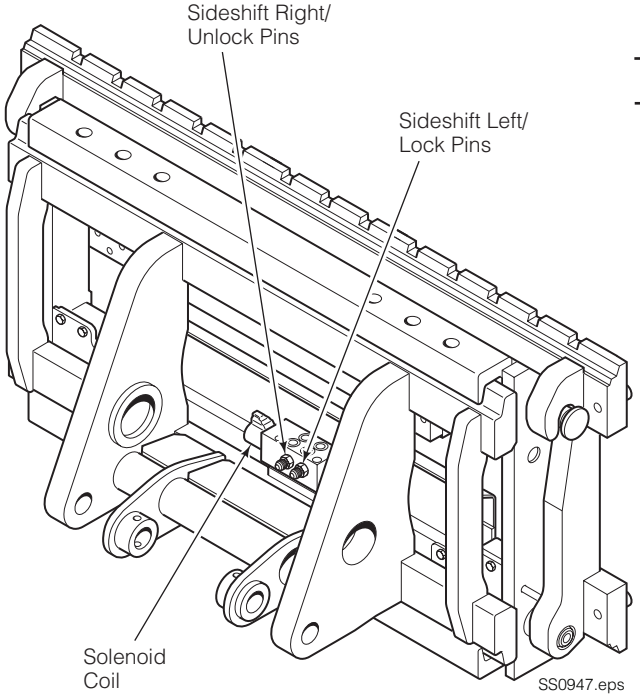
3 Connect hoses and Solenoid wiring



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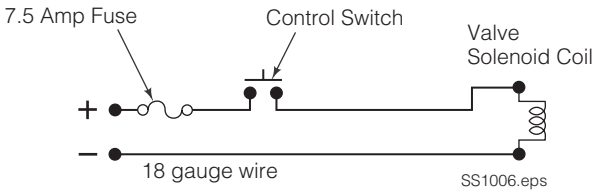

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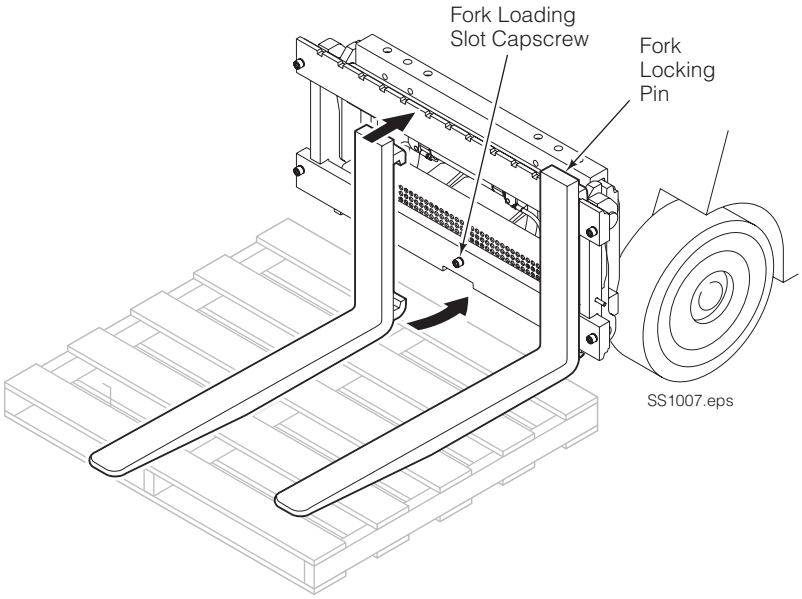
4 Install forks

Remove capscrew from fork loading slot in center of lower carriage bar. Use pallet or blocks as necessary to raise forks to installation height. Keep feet clear of forks when installing. Tighten capscrew to a torque of 120 ft.-lbs. (165 Nm).

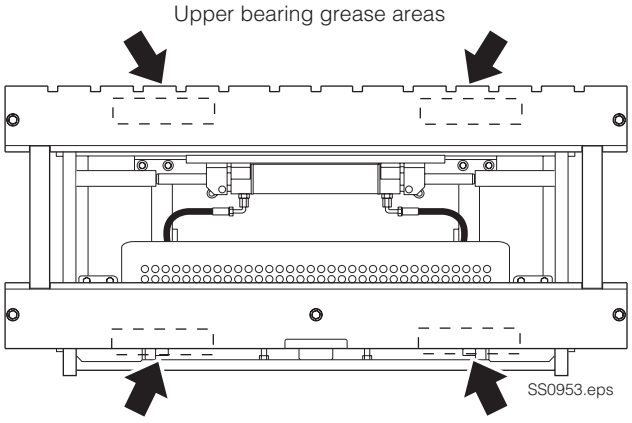
WARNING: If the fork locking pin is not fully engaged, the fork could become disengaged from the carriage.



5 Check Sideshifter bearing lubrication

Bearings are prelubed at the factory with break-in grease. **No additional lubrication is required during installation.**

NOTE: After 600 hours of operation, sideshifter bearings should be lubricated with general-purpose chassis grease.



Front View

Daily

Check items shown each day. Report problems to your supervisor. See Service Manual for troubleshooting, maintenance and repair procedures.

WARNING: If the fork locking pin is not fully engaged, the fork could become disengaged from the carriage.

100-Hour

Every time the lift truck is serviced or every 100 hours of truck operation, complete the following maintenance procedures:

- Check for loose or missing bolts, worn or damaged hoses, hydraulic leaks, and damaged or missing fork stops.
- Inspect lower hooks for wear and proper clearance. Tighten lower hook capscrews to 50 ft.-lbs (65 Nm).

300-Hour

After each 300 hours of truck operation, in addition to the 100-hour maintenance, perform the following procedures:

- Apply general-purpose chassis grease to Sideshifter upper and lower bearing grease fittings.

1000-Hour

After each 1000 hours of truck operation, in addition to the 100 and 300-hour maintenance, perform the following procedures:

- Inspect upper and lower bearings for wear. If any bearing is worn to less than 3/32 in. (2.5 mm) thickness, replace the entire bearing set. Refer to service manual for replacement procedure.

2000-Hour

After 2000 hours of truck operation, in addition to the 100, 300 and 1000-hour maintenance, 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. Severe applications will require more frequent inspection.

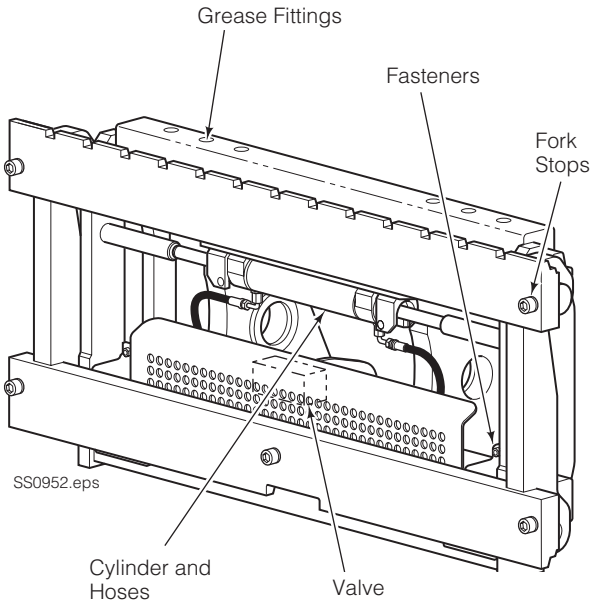
Fork inspection shall be carried out by trained personnel to detect any damage that might impair safe use. Any fork that is defective shall be removed from service. Reference ANSI B56.1-2005.

Inspect for the following defects:

- Surface cracks
- Straightness of blade and shank
- Fork angle
- Difference in height of fork tips
- Positioning lock
- Wear on fork blade and shank
- Wear on fork hooks
- Legibility of marking

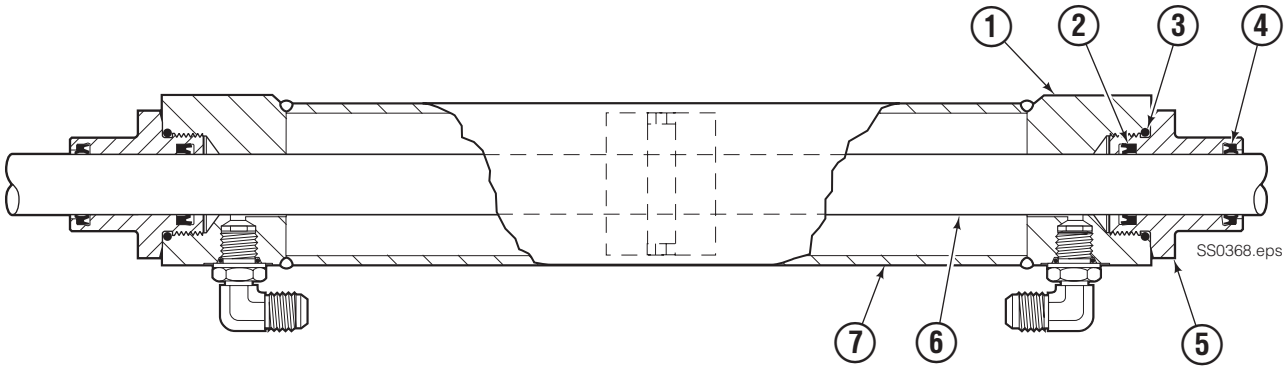
NOTE: Fork Safety Kit 3014162 contains wear calipers, inspection sheets and safety poster. Also available is fork hook & carriage wear gauge 209560 (Class II) and 209561 (Class III).

WARNING: After completing any service procedure, always test the Integral Sideshifter through five complete cycles. First test with no load, then test with a load to make sure the sideshifter operates correctly before returning it to the job.

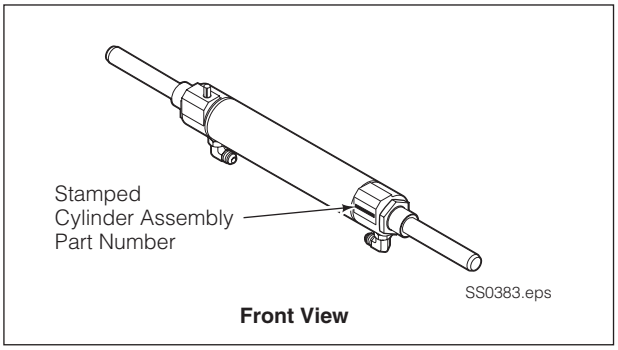


WARNING: For the safety of yourself and others, DO NOT install the parts shown in this manual unless you have thoroughly reviewed the appropriate service manual.

35A Integral Sideshifter				
PART NUMBER	DESCRIPTION	ATTACHMENTS SERVICED		
		1-5	6-19	20-50
	BASE UNIT			
6806962	Upper/Lower Bearing	8	16	32
8509290	Thrust Bearing	8	16	32
6807172	Pin Lock Bearing	2	4	8
	VALVE			
6008166	Solenoid Valve	1	2	4
6050419	Solenoid Coil	1	2	4
	CYLINDER			
6021760	Cylinder Assembly	0	1	2
6019928	Cylinder Service Kit	1	2	4



35A			
REF	**QTY**	**PART NO.**	**DESCRIPTION**
1	1	6021760	Cylinder Assembly
● 2	2	562132	Rod Seal ✖
● 3	2	415866	O-Ring, 70 Duro ✖
● 4	2	562131	Rod Wiper Seal ✖
● 5	2	6017490	Retainer/Seal Carrier Assembly
6	—	■	Rod/Piston Assembly
7	—	■	Cylinder Shell
●	2	6016592	Clevis Pin ★
	2	6016912	Hairpin Cotter ★
	▼	6016591	Shim, Cylinder ★



Front View

● Included in Rod Seal Service Kit 6019928.
✖ Preloaded in Retainer/Seal Carrier Assembly 6017490.
■ Not serviceable, order new Cylinder Assembly.
★ Not shown, see Base Unit page for illustration.
▼ Quantity as required.

Do you have questions you need answered right now? Call your nearest Cascade Service Department.
Visit us online at www.cascorp.com

En cas de questions urgentes,
contacter leservice d'entretien Cascade le plus proche.
Visiter le site Web www.cascorp.com.

Zijn er vragen waarop u direct een antwoord nodig hebt? Neem dan contact op met uwdichtstbijzijnde serviceafdeling van Cascade. Of ga naar www.cascorp.com

Per domande urgenti contattare
l'Ufficio Assistenza Cascade più vicino.
Visitate il nostro sito all'indirizzo www.cascorp.com

Haben Sie Fragen, für die Sie sofort eine Antwort benötigen? Wenden Sie sich anlhren nächsten Cascade-Kundendienst.
Besuchen Sie uns online: www.cascorp.com

¿Tiene alguna consulta que deba ser respondida de inmediato? Llame por teléfonoal servicio técnico de Cascade más cercano. Visítenos en www.cascorp.com

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