



SP 6-384-001  
**SERVICE PROGRAM**

December, 2012

**ATTENTION:**

Service Managers / Parts Managers

**SUBJECT:**

Power Steering Pump Replacement for Xpeditors with Cummins ISX Engines

**DESCRIPTION OF WORK:**

Certain factory-installed power steering pumps for ISX engines have experienced excessive heat exposure, leading to premature wear. This Service Program provides for the replacement of the power steering pump to prevent the premature wear.

**PROGRAM EXPIRES:**

December 31, 2013

**VEHICLES AFFECTED:**

This Service Program covers vehicles with serial numbers ranging from 211341 through 215286. Refer to VIN list beginning on page 9.

**SERVICE RESPONSIBILITY:**

Service Programs are performed on eligible vehicles at no charge to the owner until the expiration date listed above.

**SERVICE PROGRAM  
INFORMATION:**

Service Programs are product modifications and/or product improvements that Autocar has determined will enhance the operation of the truck. In a continuing effort to inform our customers of potential service issues and avoid unnecessary down time, Autocar has identified the following operation as recommended preventive maintenance.

This Service Program should be added to your preventive maintenance and service manuals.

While being committed to continuous product improvement, Autocar is not liable for updating existing chassis after they have been placed in service.

Questions regarding this Service Program should be directed to Autocar Technical Support at 888-218-3611.

**TO OBTAIN PARTS:**

Please send an e-mail to:  
[warranty@autocartruck.com](mailto:warranty@autocartruck.com)

**Include:**

1. VIN(s) (or) (last 6 digits of the VIN(s))
2. Attention To Name
3. Ship To Address.



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## REQUIRED PARTS:

- (1) S3840003K001 ACX ISX power steering pump service kit
  - (1) 8161532 Power steering pump gasket
  - (1) A3840003-012 Power steering pump
- (2) GM042010AX14 Bolt 12 point M10 x 2
- (1) S3870001-001 Power steering reservoir gasket x 1
- (1) S3870002-001 Power steering filter x 1

## CLAIMS FOR REIMBURSEMENT:

Submit a claim for reimbursement in accordance with Autocar's Warranty Administration Manual.

## CLAIM CODING INFORMATION:

Repair Number (Op Code)	Time Allowance (SRT)	Description
64572-0-07	1.90 HR	Power Steering Pump Replacement

## TOOLS REQUIRED:

- Diagonal cutting pliers
- 9/16" Combination wrench
- 1/4" Drive 5/16" socket
- 1/4" Drive ratchet
- 1/4" Drive extension 6" long
- 13/16" Combination wrench
- 3/8" Drive 12pt socket
- 3/8" Drive 6" extension
- 3/8" Drive torque wrench 34 ± 1 ft-lb.
- Drain pan

## SAFETY NOTICES



## CAUTION

### LOCKOUT/TAGOUT PROCEDURES

Before entering the vehicle or vehicle body, read and follow OSHA regulations concerning entry and working in "CONFINED SPACE" OSHA 1910.146 and "LOCKOUT/TAGOUT" OSHA 1910.147. Follow OSHA regulations while performing any work on the vehicle. The vehicle must be disabled by the following steps before performing any work on the vehicle:

1. Place the transmission in NEUTRAL.
2. Set the parking brake.
3. Shut the engine OFF.
4. Lock cab doors, keep the key in your pocket. Block the wheels before entering the body or performing any work on the vehicle.
5. Turn the battery disconnect switch OFF, if equipped.
6. Completely drain the air from the primary/A system and secondary/B system by opening the drain valves on the air tanks themselves or by using the drain manifold if supplied. When draining the air tanks, do not look into the area where air is draining. Dirt or sludge particles may be expelled in the air stream and can cause eye injury.
7. Place magnetic "DANGER" signs on both cab doors before entering the body or performing any work on the vehicle.
8. Take proper precautions before working under the vehicle. Use ramps approved for the weight of your vehicle, or use floor jacks and stands. Never work under a vehicle supported by jacks alone. Always use jack stands to support the vehicle.



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### WARNING

Allow the vehicle's engine and cooling system to cool to ambient temperature before performing the repair procedure. A hot engine or cooling assembly may cause burns or other personal injury.



### WARNING

To prevent eye injury, always wear eye protection when performing vehicle maintenance, service or inspection.



### WARNING

Before working on a vehicle, set the parking brake, place the transmission in neutral and block the wheels. Failure to do so can result in unexpected vehicle movement and can cause serious personal injury or death.



### WARNING

Autocar natural gas powered vehicles require specific compliance in the service, storage and refueling procedures.

If you store or dispense Compressed Natural Gas (CNG) or Liquid Natural Gas (LNG), or if you work on CNG or LNG trucks, your location must be fully compliant with applicable codes, regulations and standards, including National Fire Protection Association (NFPA) codes, Society of Automotive Engineers (SAE) standards, American National Standards Institute (ANSI), Natural Gas Vehicle (NGV) standards, the United States Code of Federal Regulations (CFR), and your state and local fire and other applicable codes (including the California Code of Regulations and the Texas Administrative Code, as applicable).

Contact your local fire department for guidance and additional compliance information. Technicians working on Autocar trucks with CNG or LNG engines must be trained in the proper repair of CNG and LNG engines and the safe storage and dispensing of CNG and LNG.



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## 1. Remove the Power Steering Pump

1.1 Raise the cab in accordance with the following safety precautions and procedures.



### WARNING

Due to the danger of sustaining personal injury and/or damage to the vehicle, never attempt to raise the cab outdoors under extremely windy conditions. Strong wind conditions could force the cab beyond the normal limits of its travel. Never rely on the hydraulic pressure to hold the cab in an open position. Always use the safety pin in the cab tilt lock tube to prevent serious personal injury or death.



### WARNING

Remove or secure all loose articles and close all doors before raising the cab. The area above and ahead of the cab must be clear from obstructions. Place front wheels in a straight ahead position.

Remove the pump handle from its storage on the inside of the cab near the driver or passenger seat.

Place the selector lever on the hydraulic pump in the RAISE position. Insert the pump handle into the pump and operate the handle in an up and down motion. The hydraulic cab latches will open, then the hydraulic cylinders will lift the cab until the midpoint (top) is reached.

Once the cab has reached its midpoint the cab will move forward to the fully open position. The safety pin in the cab tilt lock device must be installed when the holes line up in the sliding bar.

Remove the pump handle when not in use. It may stick out and could cause injury to passersby.

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## WARNING

Take proper precautions before working under the vehicle. Use ramps approved for the weight of your vehicle, or use floor jacks and stands. Never work under a vehicle supported by jacks alone. Always use jack stands to support the vehicle.

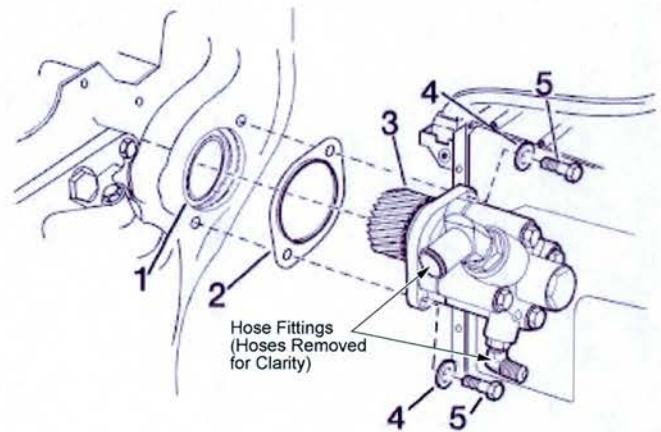
- 1.2 Jack up the front of the vehicle and place it on jack stands of adequate rating.
- 1.3 Place a drain pan under the power steering pump.
- 1.4 Disconnect the two hydraulic hoses from the pump.
- 1.5 Drain the steering fluid.



## NOTE

Dispose of used fluid in accordance with state and local regulations.

- 1.6 Plug or cap all openings on the pump to prevent spillage.



1	Mounting Surface (Engine Block)
2	Gasket
3	Drive Gear (Shaft) Power Steering Pump
4	Washer
5	Mounting Bolts

**Figure 1**

- 1.7 Remove the two mounting bolts (see *Figure 1, Item [5]*) and washers (see *Figure 1, Item [4]*). Remove the hose fittings from the pump for reinstallation on the new pump, and then discard the pump and gasket.
- 1.8 Remove the power steering pump and gasket from the engine (see *Figure 1, Items [2] and [3]*) and discard.
- 1.9 Clean the gasket surfaces on the engine.

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### 2. Install the New Power Steering Pump

- 2.1 Install the hose fittings from the removed pump to the new pump. Ensure the fittings are properly oriented (see Figure 1).
- 2.2 Install the gasket (8161532) on the pump. (see Figure 1, Item [2]).
- 2.3 Install the new pump (A3840003-012) on the engine. Torque the bolts (GM042010AX14) to 34 ft-lb. (46 N·m).
- 2.4 Connect the two hydraulic hoses, that were removed in step 1.4 to the new pump. Secure the hoses together using a tie strap to prevent them from rubbing on the frame (see Figure 1).

### 3. Change the Power Steering Pump Filter and Fluid

- 3.1 Locate the power steering reservoir, mounted either on the left or right side of the vehicle's upright support (see Figure 2).

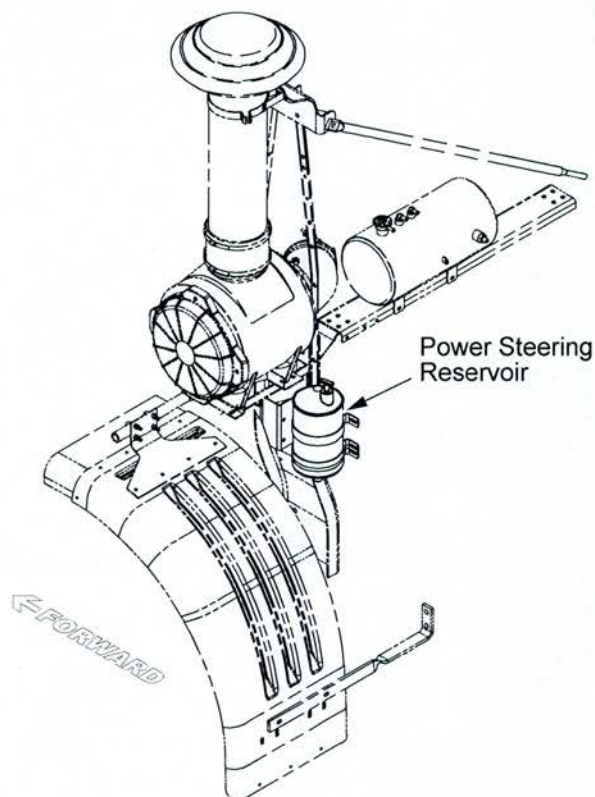
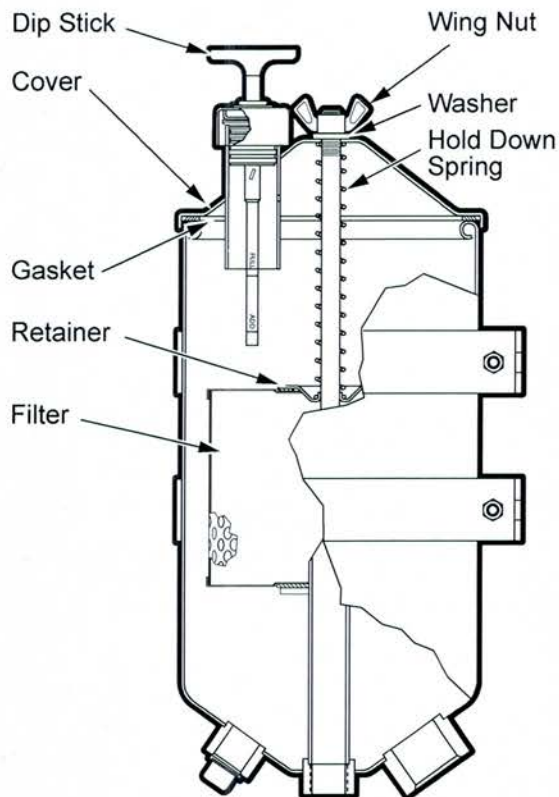


Figure 2

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- 3.2 Remove the cover by first removing the wing nut and washer and set all aside for reinstallation (see Figure 3).
- 3.3 Remove the gasket and discard (see Figure 3).
- 3.4 Remove the hold down spring and retainer and set aside for reinstallation (see Figure 3).
- 3.5 Lift out the filter and discard (see Figure 3).



**Figure 3**



### NOTE

**Dispose of fluids and filters in accordance with state and local regulations.**

- 3.6 Install the filter (S3870002-001) into the reservoir.
- 3.7 Install the retainer and hold down spring that was removed in step 3.4.
- 3.8 Install the new gasket (S3870001-001) onto the reservoir cover.
- 3.9 Install the reservoir cover, washer and wing nut that were removed in step 3.2. Refill the reservoir with power steering fluid (the recommended fluid type is Dexron® III or equivalent **(Do Not Use Dexron® VI)**).

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### 4. Bleed the Steering Hydraulic System



#### NOTE

Never turn the steering wheel until required by the procedure. Turning the steering wheel before the system has been sufficiently bled could result in damage to the steering gear.

- 4.1 With the reservoir full, start and run the engine for 10 seconds, then shut it off. Check the reservoir and refill, if necessary. Repeat this step at least three times.



#### NOTE

Never allow the fluid level to drop significantly or run the reservoir dry. This may introduce air into the system, which could result in damage to the steering gear.

- 4.2 Start the engine, let it idle for two minutes, then shut it off. Check the reservoir and refill if necessary.
- 4.3 Start the engine, steer the vehicle from full left to full right several times. Shut the engine off and add fluid as necessary to maintain fluid level at the "full" line on the dipstick.
- 4.4 Verify there is no leakage in the system.
- 4.5 Lower the vehicle and lower the cab. Repairs are now complete.

**Note:** For additional information, Refer to: ACX Service Manual/Steering Hydraulic System AWE 00022 Rev. 001.



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5VCACL6F7AH211341	5VCACR6FXBH212200	5VCACL6F0BH213000	5VCACL6F6CH213813
5VCACL6F9AH211342	5VCACR6F1BH212201	5VCACR6F4BH213004	5VCACL6F8CH213814
5VCACL6F0AH211343	5VCACR6F3BH212202	5VCACR6F6BH213005	5VCACL6FXCH213815
5VCACL6F2AH211344	5VCACR6F5BH212203	5VCACR6F8BH213006	5VCACR6F8CH213816
5VCACL6F4AH211345	5VCACR6F7BH212204	5VCACS6F2BH213011	5VCACR6FXCH213817
5VCACL6F6AH211346	5VCACR6F9BH212205	5VCACL6F4BH213047	5VCACR6F5CH213918
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5VCACL6F2AH211506	5VCACD6F9BH212966	5VCACR6F0CH213759	5VCACL6F0CH214259
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5VCACR6F7BH212199	5VCACL6FXBH212999	5VCACR6FXCH213770	5VCACS6F4DH214941



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- 5VCACS6F6DH214942
- 5VCACS6F8DH214943
- 5VACL6FXDH214948
- 5VACL6F3DH215004
- 5VACL6F5DH215005
- 5VCACD6FXDH215006
- 5VCACD6F1DH215007
- 5VCACD6F3DH215008
- 5VACL6F2DH215009
- 5VACL6F9DH215010
- 5VCACD6F7DH215044
- 5VCACD6F3DH215011
- 5VCACD6F5DH215012
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