



Mack Trucks, Inc.
Greensboro, NC USA

SB-10054150-5440

Field Service Bulletin Trucks

	Date	Group	No.	Release	Page
This bulletin replaces "FSB 413-003, Air Assist to Non-Assist Clutch Cable Conversion" released 12.2013.	12.2013	413	003	02	1(14)

Air Assist to Non-Assist
Clutch Cable Conversion
CHU, CTP, CXP, CXU, GU

FSB 413-003, Air Assist to Non-Assist Clutch Cable Conversion

(December 2013)

The air operated clutch assist system was designed to reduce clutch pedal effort by approximately 20%, along with reducing the clutch pedal travel by 2" (50.8 mm). This system provides more leg and knee room for the operator and increases operator comfort by reducing leg strain.

For customers who would prefer a non-assisted clutch cable Mack Trucks Inc has created the following kits for CTP, CXP, CHU, CXU and GU chassis.

Required Parts

Clutch Cable Installation Kit 85121549	Part Number	QTY	Description
	20706292	1	plug for bulkhead vent line
	20758295	2	pin clip
	21026788	1	clutch lever
	21282024	1	bracket, cable mounting MP7 & MP8
	25087361	2	clevis
	25089392	1	washer at clutch lever for spring attachment
	25095090	1	clevis pin for pedal
	25098064	1	clevis pin for lever on transmission
	25155285	1	washer spacer for clevis pin at clutch lever
	25092801	2	mounting bolt, bracket to flywheel housing MP8 engine
	25100022	2	mounting bolt, bracket to flywheel housing MP7 engine
	20704650	2	spacer at flywheel housing MP8
	25161826	1	plug for air line at the protection manifold
	25175065	1	clutch cable
	25624741	1	spring anchor bracket, Fuller transmission
	25625083	1	spring anchor bracket, Mack transmission
	25160495	1	adapter bracket cable to bulkhead flange
	25156099	1	bushing for clutch lever
	25090423	1	clutch lever return spring
	20395795	1	double head tie to secure cable to oil fill, CXU
	25156578	1	plastic tie to secure cable to oil fill, GU
	980464	4	misc. plastic tie
These parts are separate from Clutch Cable Installation Kit 85121549	82301558	1	Clutch Pedal Assembly, Rubber Pad
	82302790	1	Clutch Pedal Assembly, Open Grated

Procedure

You must read and understand the precautions and guidelines in Service Information, group 40, "General Safety Practices, Transmission" before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.



DANGER

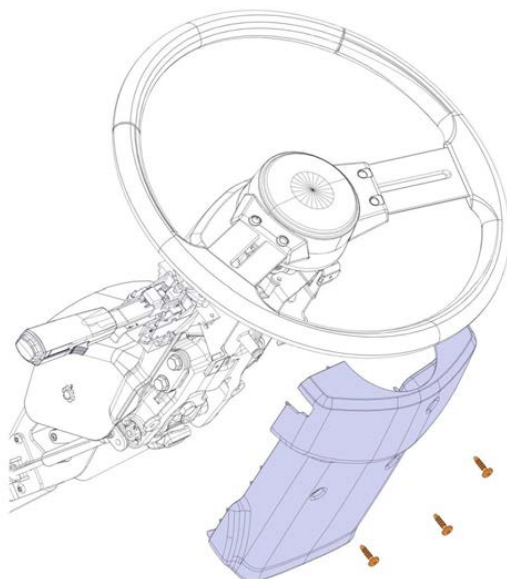
Do not attempt to repair or service this vehicle without having sufficient training, the correct service literature and the proper tools. Failure to follow this could make the vehicle unsafe and lead to serious personal injury or death.



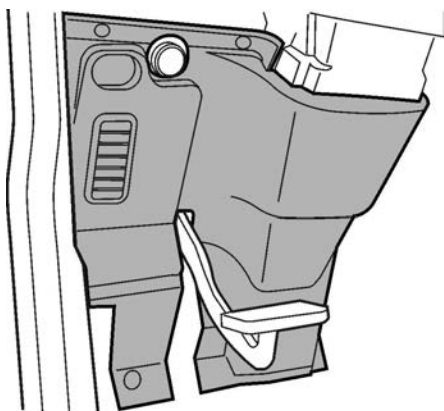
DANGER

Before beginning any work on any part of the air system, be certain that the air pressure has been released. Failure to do so may cause a component to violently separate, which can result in serious personal injury.

- 1 Secure the vehicle for service by parking it on a flat level surface, applying the parking brake, chocking the rear wheel, and placing the transmission in neutral.
- 2 Disconnect all cables from the negative (ground) battery terminals to prevent personal injury from electrical shock and prevent damage to electrical components.
- 3 Unlatch and raise the hood.
- 4 Drain the air system.
- 5 Remove the steering column panel.

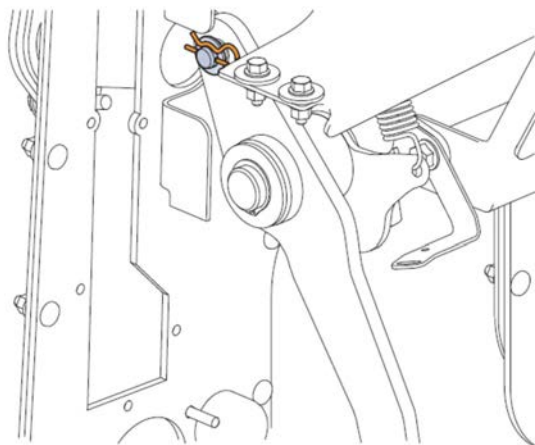


- 6 Remove the driver side kick panel.



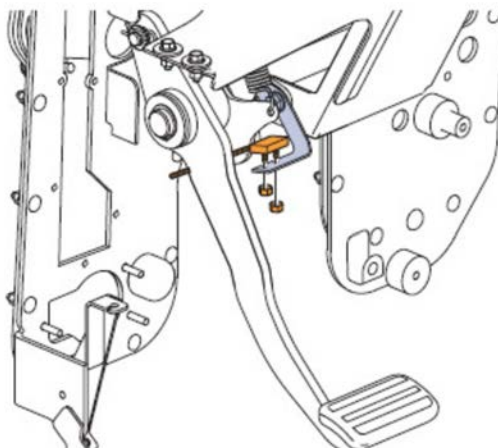
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- 7 Remove clip from the clutch cable clevis pin at the clutch pedal and remove the washer and pin.



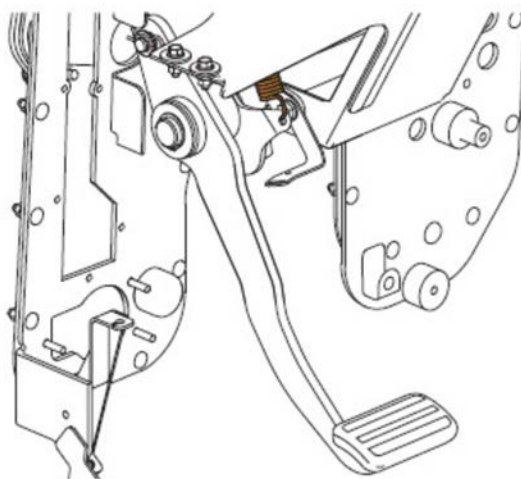
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- 8 Remove the clutch pedal switch.



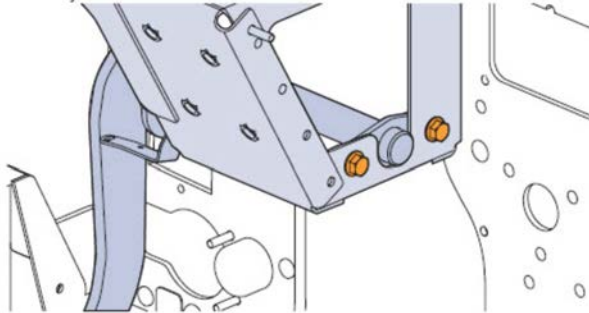
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- 9 Remove clutch pedal return spring.

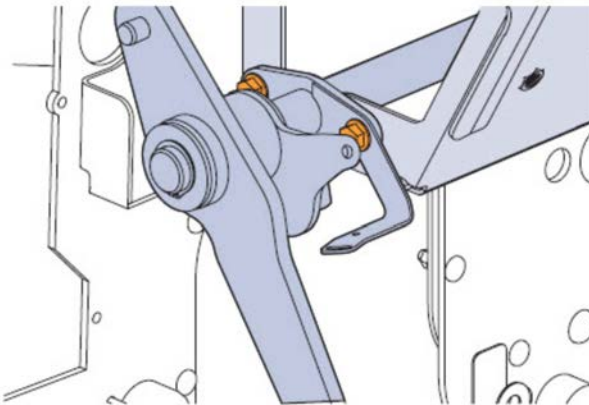


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- 10 Cut cable tie from turn signal harness and position harness out of the way. Remove the four fasteners holding the clutch pedal and shaft assembly to steering column bracket. Remove assembly from cab.



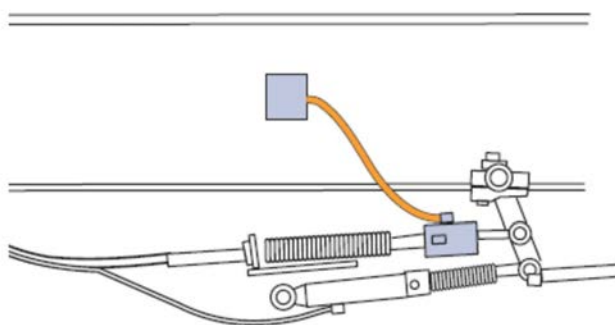
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W4085124

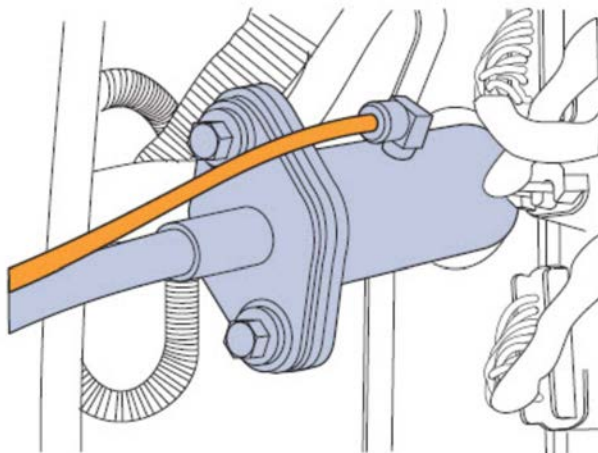
- 11 Position the new pedal assembly in the steering column bracket and start all four fasteners by hand. Torque all fasteners to 24 ± 4 Nm (17.7 ± 3 ft-lb).

- 12 Secure the turn signal harness with cable ties.
- 13 Reinstall clutch pedal return spring.
- 14 Reinstall clutch pedal switch. Adjust the switch as needed to properly activate when pedal is at or near the top of travel.
- 15 Disconnect the air line feeding the air-assist regulator at the PPV valve. Depending on the chassis this valve may be located in the driver side frame rail under the cab air bag bracket. Use the supplied plug to plug the open port on the valve.



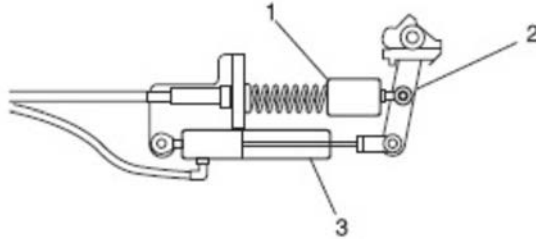
W4082570

- 16 Disconnect the air line for the assist cylinder at the bulkhead and use the supplied plug to plug the fitting.



W4085125

- 17 Cut cable ties securing the clutch cable and disconnect cable from cab bulkhead.
- 18 Disconnect the regulator and the assist cylinder from the clutch release lever. Remove the fasteners securing the bracket to the fly wheel housing and remove the cable assembly from the chassis.



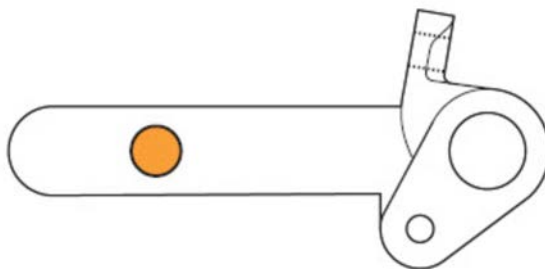
W4085126

- 1 – Pressure Regulator
- 2 – Clutch Release
- 3 – Assist Cylinder

- 19 Remove the clutch release lever and adjustment collar.

20 Remove the adjusting bolt from the old lever and install the new lever.

21 Install the bushing in the new lever.



W4085127

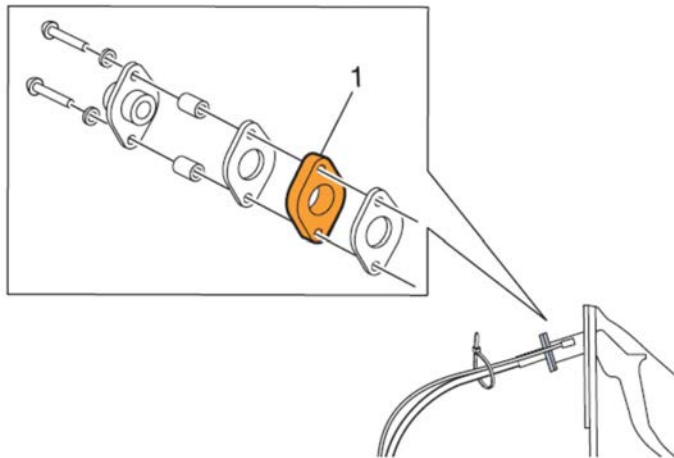
22 Install the mounting plate on the cable. Thread the plate all the way on the cable and against the jam nut. Do not tighten the jam nut.

23 Install the clevis on the cable.

24 Position the replacement clutch cable on the vehicle.

Note: During reassembly, do not reuse the 1/2 in spacer at the cable to cab mounting location (1). Use only the two isolator gaskets to mount the cable to the cab. If the chassis is equipped with this spacer the existing mounting bolts should be discarded. Use two isolator gaskets (8 mm x 50 mm) to secure the cable to the cab. If only one isolator gasket was used for mounting, discard the existing tubular spacers. Replace the spacers with two 27.1 spacers.

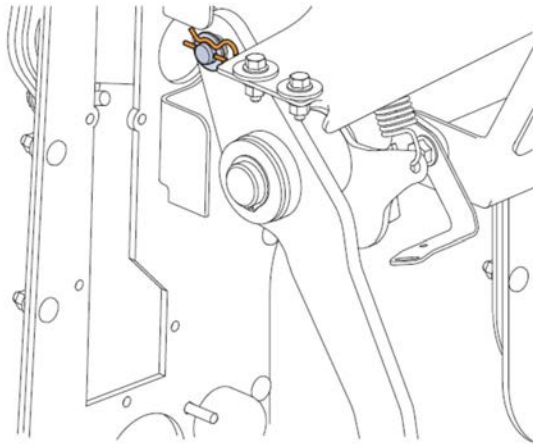
Note: Route the new cable using the existing connecting points for the old cable. Where applicable, use the figure eight cable ties to secure the cable to the engine oil fill spout, where applicable.



W4082634

25 Attach the new cable to the bulkhead using two isolator gaskets.

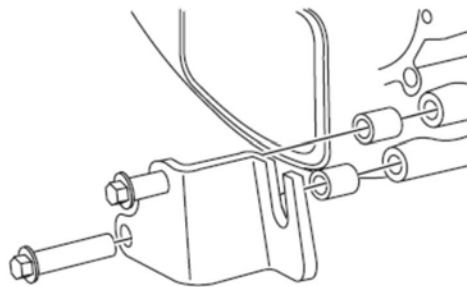
26 Connect the clutch cable to the clutch pedal with the clevis pin, washer and clip.



W4085077

27 Install the cable bracket on the flywheel housing. Use the spacers (part number 20704650) and long fasteners (part number 25092801) for mounting the bracket to an MP8 engine.

Note: Do not use spacers for the MP7 engine.

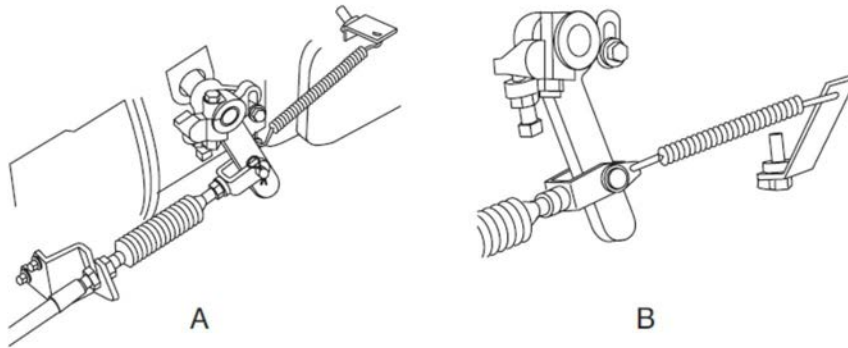


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28 Install clutch lever and adjustment collar on the release bearing cross-shaft.

29 Attach the clutch cable to the bracket.

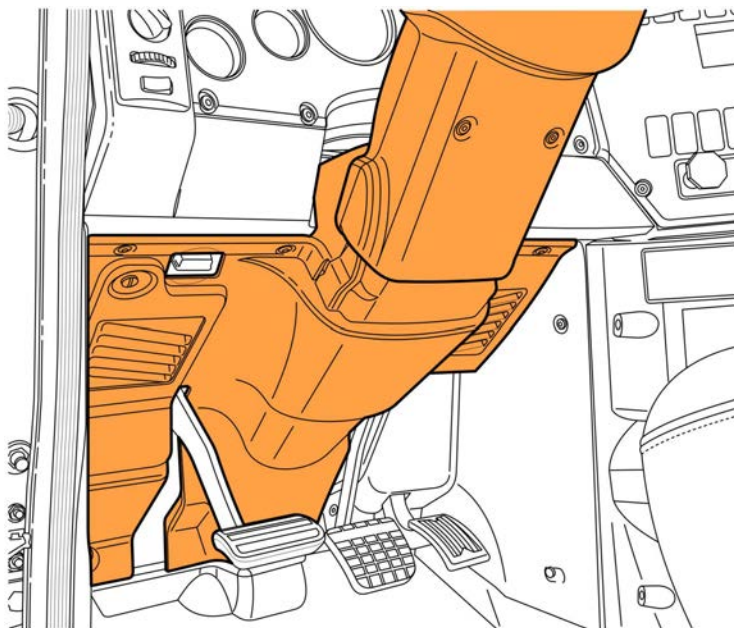
- 30 Connect the clevis to the clutch lever with the clevis pin, return spring washer, spacer washer and clip.
- 31 Install the new return spring bracket to the transmission.
- 32 Correctly orient the return spring consistent with the transmission model.



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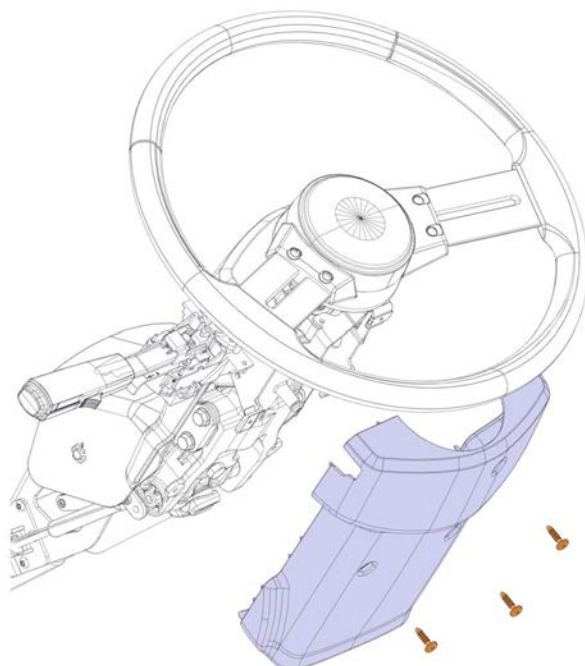
A: Mack Transmission
B: Fuller Transmission

- 33 Remove the clutch inspection plate from the bottom of the transmission bell housing.
- 34 Verify the following dimensions are correct:
 - 1 – Release bearing to clutch brake clearance
 - 2 – Clutch brake squeeze
 - 3 – Clutch pedal free plate
- 35 Reinstall the inspection plate.
- 36 Install jam nut on the clutch cable at the mounting plate. Torque nut to 24 ± 4 Nm (17.7 ± 3 ft-lb).
- 37 Install the lower dash trim panel.



W4082281

38 Install the steering wheel column panel. Hand tighten fasteners to prevent damage to the cover.



W6081083

39 Close and latch the hood.

- 40 Connect all previously removed cables to the negative (ground) battery terminals. Install the battery box cover.
- 41 Refill the air system.
- 42 Check for proper operation of the clutch. Check for air leaks. Adjust the clutch as necessary.