

/// PAC BRAKE®

Installation MANUAL



Direct Mount **EXHAUST BRAKES**

Designed for International 4700 and 4900 Equipped with DT466E / DT530E Engines
Kit Numbers C13042 / C13043 / C13048 / C13050 / C13051 / C13059

Important - Application Guide

Please check your engine serial number against this guide for correct backpressure. When in doubt about exhaust valve springs, remove valve cover.

NOTE: 28 PSI springs have a white stripe/52 PSI springs have a green stripe.

Engine	Maximum pressure/speed limits (PSI)	Retarder speed (RPM)
DT 408 (obsolete 6/94)	56	3000
*DT 466 (std. torque)	49 (rated speed 2500)	2800
*DT 466 (high torque)	49 (rated speed 2300)	2800
530 ALL	52	2600
Old DTA 466 (Obsolete 10/93)	28 (No upgrade kit)	2800

Important Notes:

DT408 engines use the same cylinder head as DT466 engines with the exception of early DT408 engines that have 8 mm diameter valve stems. International recommends replacement of the cylinder head to one equipped with 11 mm diameter guides and valves be installed when an exhaust brake is installed.

***DTA466 engines prior to M/Y 1988 with engine serial #532980 and less are 28 PSI (no upgrade available).**

***DTA466 engines with engine serial #532980 and up which incorporated roller followers are 28 PSI. (Service parts are available as individual items to upgrade to 49 PSI@2800 RPM) For upgrade kit consult you International distributor.**

***DT466E (suffix E is electronic engines) engines prior to engine serial #966779 are 28 PSI. An optional heavy duty exhaust valve spring is available through your International distributor to increase the backpressure to 49 PSI (International PN 1825540-C1). This valve spring replacement is recommended for maximum retarding power.**

INTERNATIONAL DT466E

with engine s/n above 966779

4700/4900 International trucks with DT466 electronic engine. Vehicle has onboard air.

Kit # C13042

Contains:	C10360	Direct Mount™ exhaust brake
	C11545	Exhaust pipe
	C10215	Mounting group
	L7028	Info group

4700/4900 International trucks with DT466 electronic engines. Vehicle has NO onboard air.

Kit # C13048

Contains:	C10360	Direct Mount™ exhaust brake
	C11545	Mounting group
	C11809	Air supply and electrical group
	L7041	Info group

4700/4900 International trucks with DT466 electronic engine with or without automatic transmission, with ABS. Vehicle has onboard air.

Kit # C13050

Contains:	C10360	Direct Mount™ exhaust brake
	C10216	Control group
	C11545	Mounting group
	L7028	Info group

2554 International trucks with DT466E electronic engine with ABS. Vehicle has onboard air.

Kit # C13054

Contains:	C10360	Direct Mount™ exhaust brake
	C10216	Control group
	C11544	Mounting group
	L7028	Info group

4700/4900 International trucks with DT466* electronic engine without automatic transmission, with ABS. Vehicle has NO onboard air.

Kit # C13058

Contains:	C10360	Direct Mount™ exhaust brake
	C11808	Control group
	C11545	Mounting group
	L7041	Info group

*NOTE: DT466E engines with s/n 966779 and below may be upgraded to 52 PSI with exhaust valve spring p/n 1825540-C1. Available from International.

INTERNATIONAL/DT530E

including MY2000

8100/2547 International trucks with DT530 electronic engine without automatic transmission, with ABS . Vehicle has onboard air.

Kit # C13052

Contains:	C10370	Direct Mount™ exhaust brake
	C10216	Control group
	C11548	Mounting group
	L7028	Info group

8100 / 2547 International trucks with DT530 electronic and mechanical engines. Vehicle has onboard air.

Kit # C13049

Contains:	C10370	Direct Mount™ exhaust brake
	C11544	Mounting group
	C10215	Electrical kit
	L7028	Info group

4700/4900 International trucks with DT530 electronic engine without automatic transmission, with ABS . Vehicle has onboard air.

Kit # C13051

Contains:	C10370	Direct Mount™ exhaust brake
	C10216	Control group
	C11545	Mounting group
	L7028	Info group

4700/4900 International trucks with DT530 electronic engine. Vehicle has onboard air.

Kit # C13043

Contains:	C10370	Direct Mount™ exhaust brake
	C10215	Control group
	C11545	Mounting group
	L7028	Info group

4700/4900 International trucks with DT530 electronic engine without automatic transmission, with ABS . Vehicle has NO onboard air.

Kit # C13059

Contains:	C10370	Direct Mount™ exhaust brake
	C11808	Control group
	C11545	Mounting group
	L7041	Info group

Before Starting

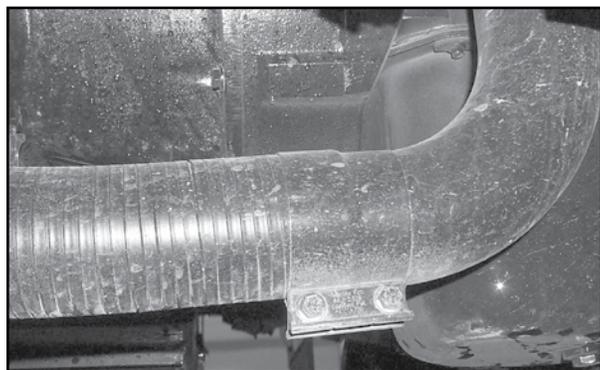
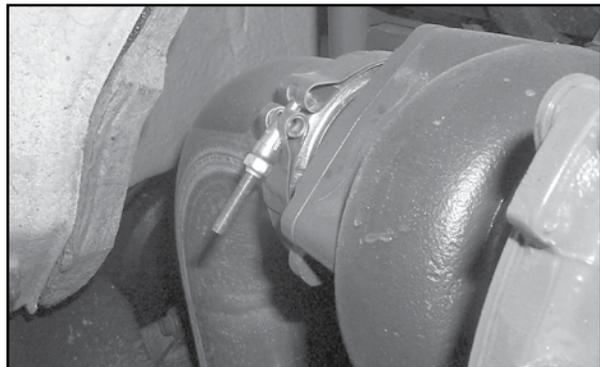
Check that the kit contains everything in the photo. Check the engine model and year to be sure this kit is correct for your application.

Note: The NavPac ECM will need to be turned on by an International Dealer.



Getting Started

- 1 Remove turbo "V" clamp and discard.
- 2 From below the vehicle remove clamp at flex pipe and remove header pipe.



- 3 The original header pipe will need to be cut off to adapt to the Pacbrake pipe. The Pacbrake pipe is expanded to slide over the original pipe, consider this in your measurement.



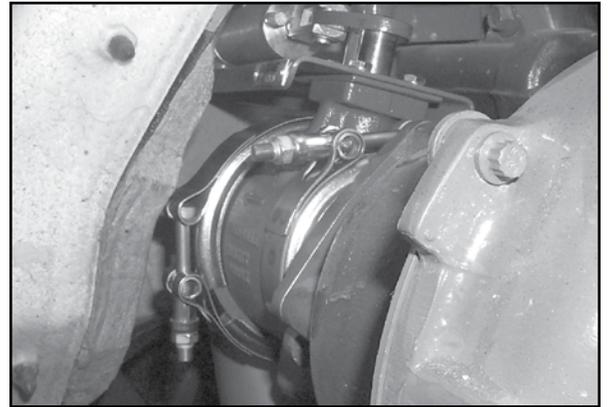
- 4 Once pipe is cut, slide the band clamp on the original pipe. Then insert the original pipe into the Pacbrake pipe. Do not tighten band clamp yet.



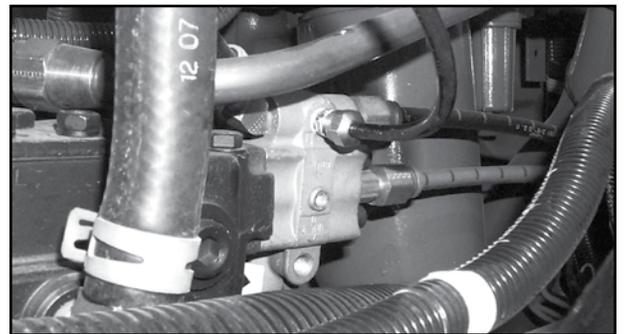
- 5 Install vehicles using a Pacbrake compressor requires a quick release valve be installed in the Pacbrake cylinder. Using the smaller of the 2 "V" clamps supplied in your kit, mount the brake to the turbo. Rotate the Pacbrake to attain equal clearance between cab and engine.

- 6** Install header pipe to outlet of Pacbrake using the remaining “V” clamp supplied in your kit. Torque “V” clamps to 15 lbs ft (28 N•m). Tighten band clamp at flex pipe.

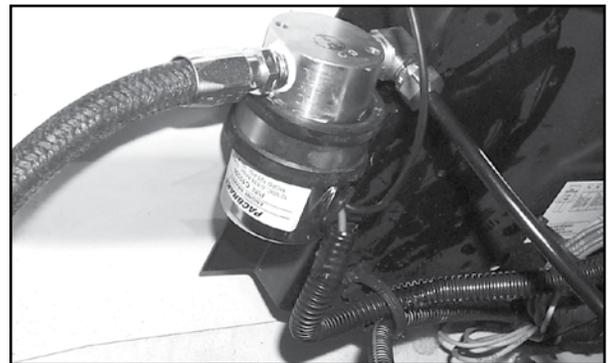
IMPORTANT: Torque “V” clamps to 15 lb ft (28 N•m), tap clamp lightly and retorque. Clamps **MUST** be retorqued after road test to ensure the proper sealing.



- 7** For vehicles without onboard air refer to the instructions contained in that group. For vehicles with onboard air source reservoir from the dry air tank to supply Pacbrake solenoid valve using the fittings and nylon tube provided plumb supply air to the port marked “IN” on the Pacbrake solenoid.



- 8** Mount the Pacbrake solenoid valve on the firewall with the exhaust port pointing down as shown. Connect the black wire to a good vehicle ground. The red wire will be connected to the red wire of the Pacbrake harness using the heat shrink connector supplied. Determine length of wire braid hose required to plumb air from the “CYL” side of the solenoid to the exhaust brake cylinder. Cut the hose and install the hose fittings. Using compressed air, blow the line from both ends to remove foreign material. Install the hose being careful to support it away from sources of heat and moving parts.



WIRING

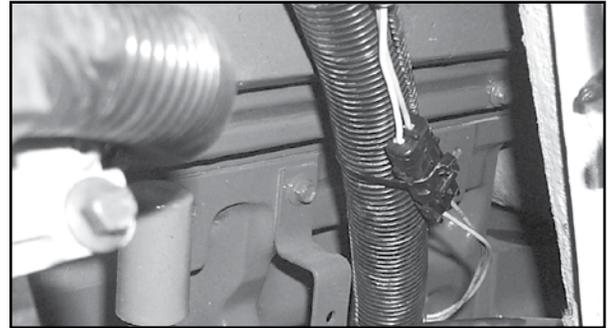
9 ALL VEHICLES

Mount the Pacbrake relay receptacle on the cowl beside other relays using self taping screw provided. Insert relay.

Proceed to wiring diagrams/instructions on page 5.

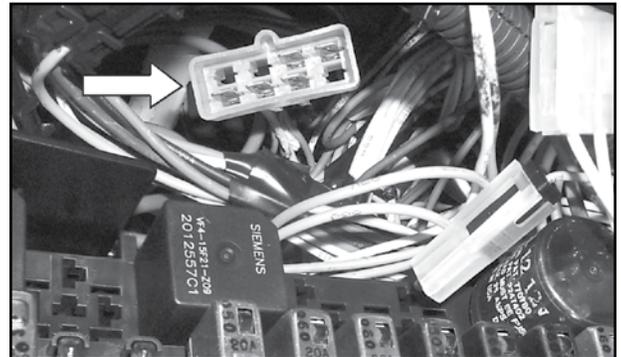


- 10** FOR NAVPAK EQUIPPED VEHICLES ONLY. - Locate the metripac plug in the VOEM harness on the driver's side of the engine above the starter. Remove protective cap and interface with the plug on the Pacbrake harness. Secure wires with ties provided.
FOR ELECTRONIC AND MECHANICAL SYSTEMS cut th Metri Pac connector off the Pacbrake harness and connect as per wiring diagram for your vehicle.



WIRING INSIDE CAB

- 11** NAVPAK INSTALLATIONS
Behind the fuse panel locate connector 377 (8 terminal) receptacle. Make connections as per wiring schematic for your application.



- 12** Pacbrake kit contains a toggle type switch. If a factory locker switch is desired international PN 1677051-C1. For single pole single throw, or International PN 1619699-C2 for double pole single throw.



IMPORTANT

The installation procedures for each application is slightly different, please follow instructions and schematics carefully.

1. Identify the engine's fuel control system first. MECHANICAL or ELECTRONIC
2. If ELECTRONIC, is it Navpak or pre-Navpak? (see diagram "A")
3. Does the vehicle have an onboard air system or require a PACBRAKE remote compressor?
4. Does the vehicle have ABS braking?
5. Does the vehicle have an ALLISON MD 3060 transmission? If yes — interfacing IS required.

With these questions answered, choose the correct wiring diagram from below. If you require more information or the correct schematic is not provided please contact Pacbrake factory at 1-800-663-0096.

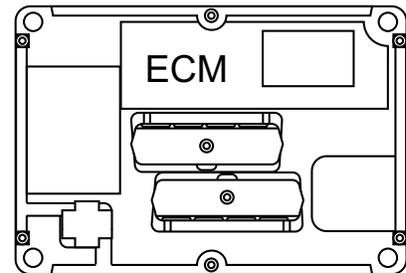


fig. A
NAVPAK ECM - Electronic Control Module

Wiring Schematic Application List

International DT466M/530M, mechanical control prior to Navpak without air	Schematic L5104
International DT466M/530M, mechanical control prior to Navpak with air	Schematic L5105
International DT466E/530E, electronic control prior to Navpak without air	Schematic L5102
International DT466E/530E, electronic control prior to Navpak with air	Schematic L5103
International DT466E/530E, Navpack systems, without Allison WT Transmission, without ABS, with air	Schematic L5145
International DT466E/530E, Navpack systems, without Allison WT Transmission, without ABS, without air	Schematic L5144
International DT466E/530E, Navpack systems, without Allison WT Transmission, with ABS, with air	Schematic L5143
International DT466E/530E, Navpack systems, without Allison WT Transmission, with ABS, without air	Schematic L5142
International DT466E/530E, Navpack systems, with Allison WT III Transmission, with or without ABS, with air	Schematic L5141
International DT466E/530E, Navpack systems, with Allison WT III Transmission, with or without ABS, without air	Schematic L5140

IMPORTANT

The installation procedures for each application is slightly different, please follow instructions and schematics carefully.

For vehicles with MECHANICAL fuel controls use the correct wiring diagram and following instructions.

- 1 The harness enclosed requires a slight modification, cut the weatherpac connector off close to the connector. (Discard connector.)
- 2 Mount the relay receptacle on the firewall using the self-tapping screw provided. Install relay.
- 3 Route the red wire to the PACBRAKE solenoid or PACBRAKE compressor.
- 4 Route the white wire to the throttle switch. (Mount switch provided on throttle linkage.)
- 5 Route the green wire into the cab to fuse panel. Source ignition power. Note: PACBRAKE remote compressors require a circuit capable of 20 AMPS and a 20 amp fuse.
- 6 Drill a 1/2" hole in a convenient location and install dash switch. (A foot switch is an optional control for these applications.) Connect wires as per correct schematic.

For vehicles with ELECTRONIC fuel control (prior to Navpak). choose the correct wiring diagram and follow these instructions.

- 1 The harness enclosed requires a slight modification, cut the weatherpac connector off close to the connector. (Discard connector.)
- 2 Mount the relay receptacle on the firewall using the self-tapping screw provided. Install relay.
- 3 Route the loomed red wire to the PACBRAKE solenoid or PACBRAKE remote compressor.
- 4 Route the white wire of the harness along the firewall to the round socket located on the drivers side. Locate socket #18. It should be a gray wire #24. Cut this wire and attach the white wire in the PACBRAKE harness to the socket side of the wire. Heat terminal to provide a sealed connection.
- 5 Route the green wire into the cab to fuse panel. Source ignition power. Note: PACBRAKE remote compressors require a circuit capable of 20 AMPS and a 20 amp fuse.
- 6 Drill a 1/2" hole in a convenient location and install dash switch. (A foot switch is an optional control for these applications.)
- 7 Connect wires as per correct schematic.

For vehicles with NAVPAK ELECTRONIC fuel control choose the correct wiring diagram and follow these instructions.

- 1 Locate the International main electrical harness which is routed down the drivers side of the engine above the starter. A weatherpac plug will be visible with two wires numbered 24A and 24B, remove the protective cap and connect to the PACBRAKE harness mating plug.
- 2 Route the harness along the firewall and mount the relay receptacle using the self-tapping screw provided, install the relay.
- 3 Route the loomed red wire to the PACBRAKE solenoid or PACBRAKE remote compressor.
- 4 Inside the cab behind the fuse panel locate the 8 terminal receptacle. See diagram B. Make connections as per the wiring schematic for your application.
- 5 Drill a 1/2" hole in a convenient location and install dash switch. (A foot switch is an optional control for these applications.) Connect wires as per correct schematic.

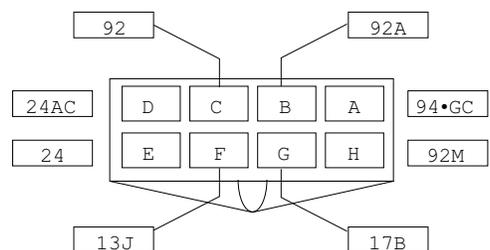
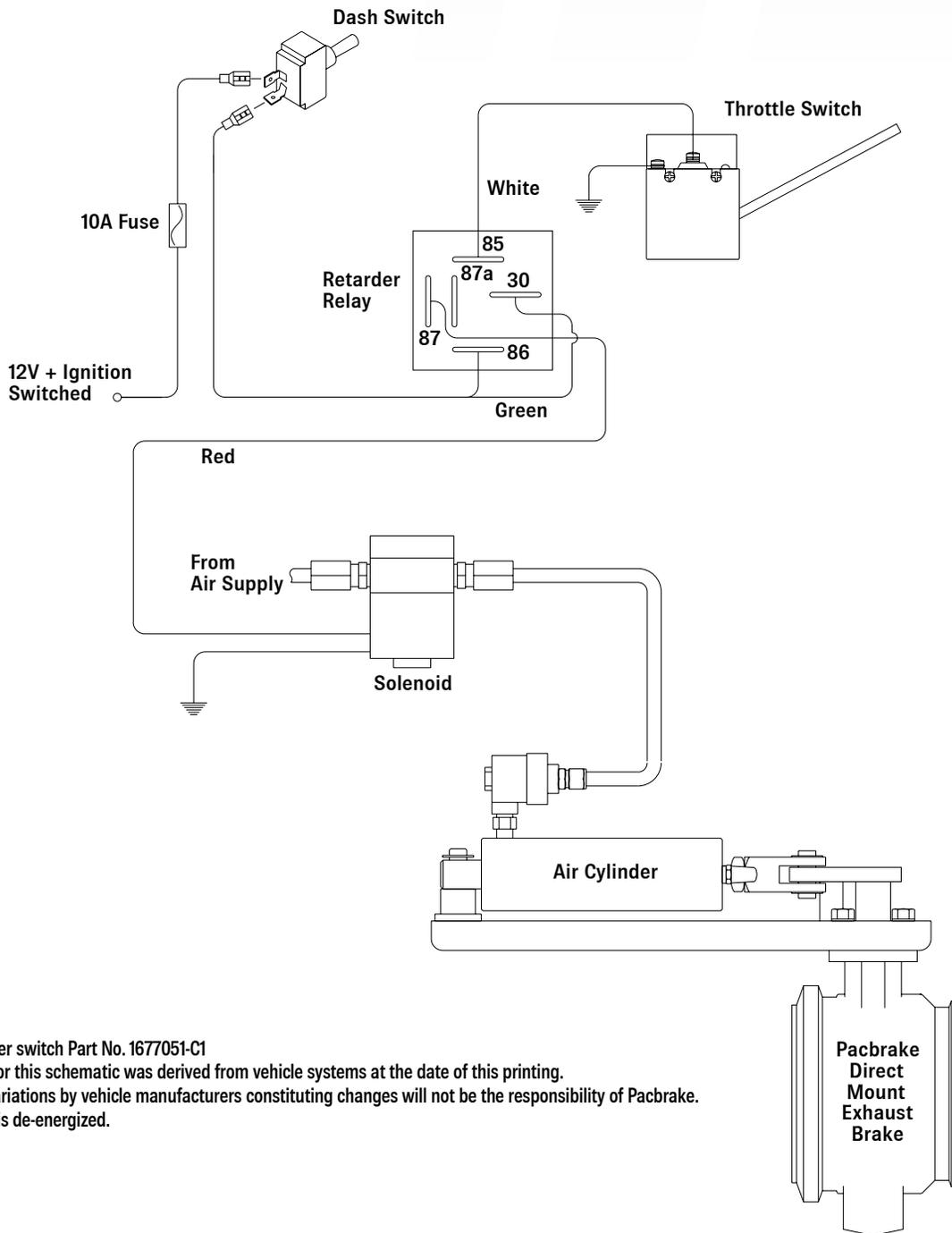


Fig. B

INTERNATIONAL DT466M/530M

FOR VEHICLES: MECHANICAL FUEL CONTROL (PRIOR TO NAVPAK) (WITH) ON BOARD AIR SYSTEM

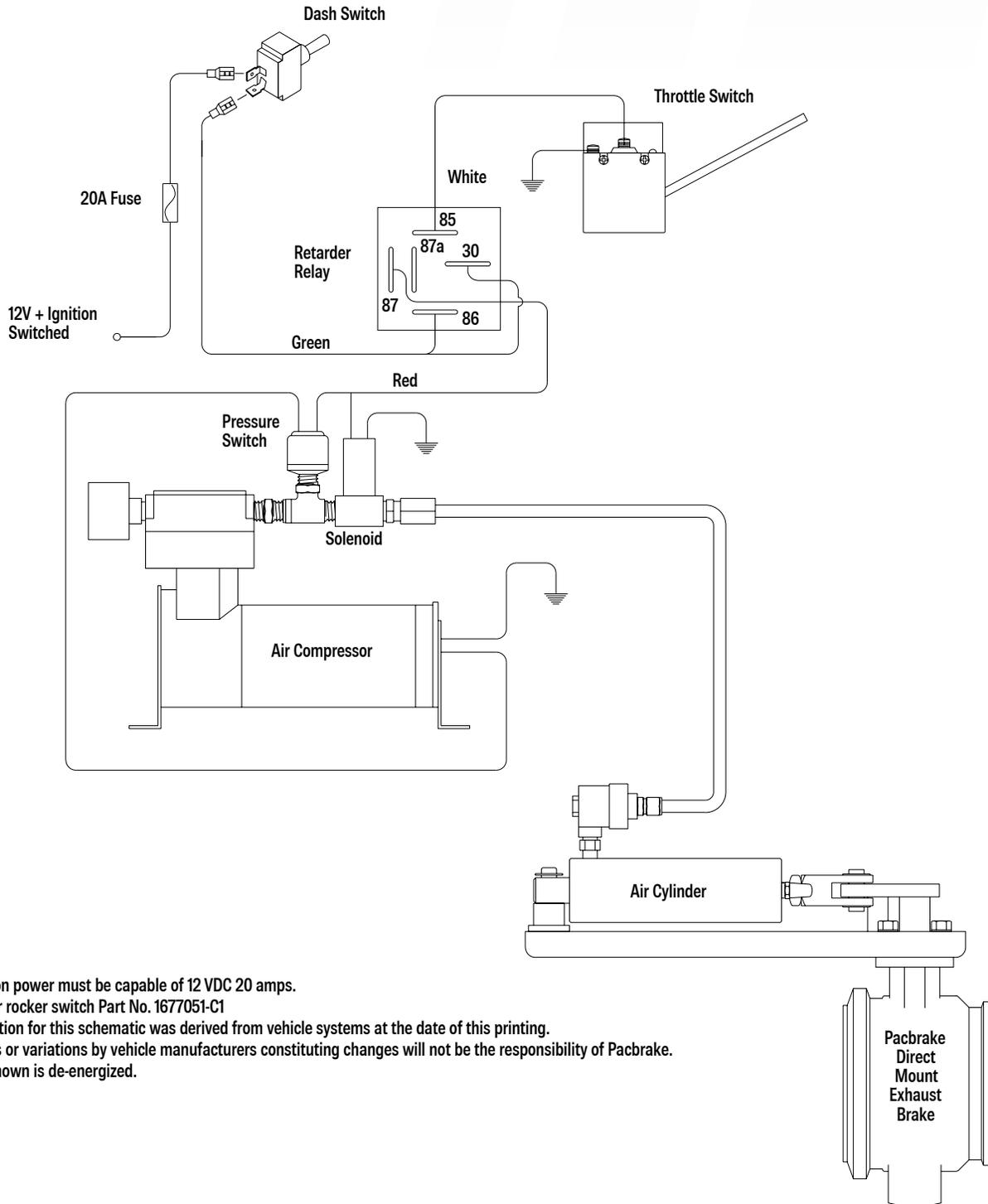


NOTE:

- Navistar rocker switch Part No. 1677051-C1
- Information for this schematic was derived from vehicle systems at the date of this printing.
- Updates or variations by vehicle manufacturers constituting changes will not be the responsibility of Pacbrake.
- Relay shown is de-energized.

INTERNATIONAL DT466M/530M

FOR VEHICLES: MECHANICAL FUEL CONTROL (PRIOR TO NAVPAK) (WITHOUT) ON BOARD AIR SYSTEM

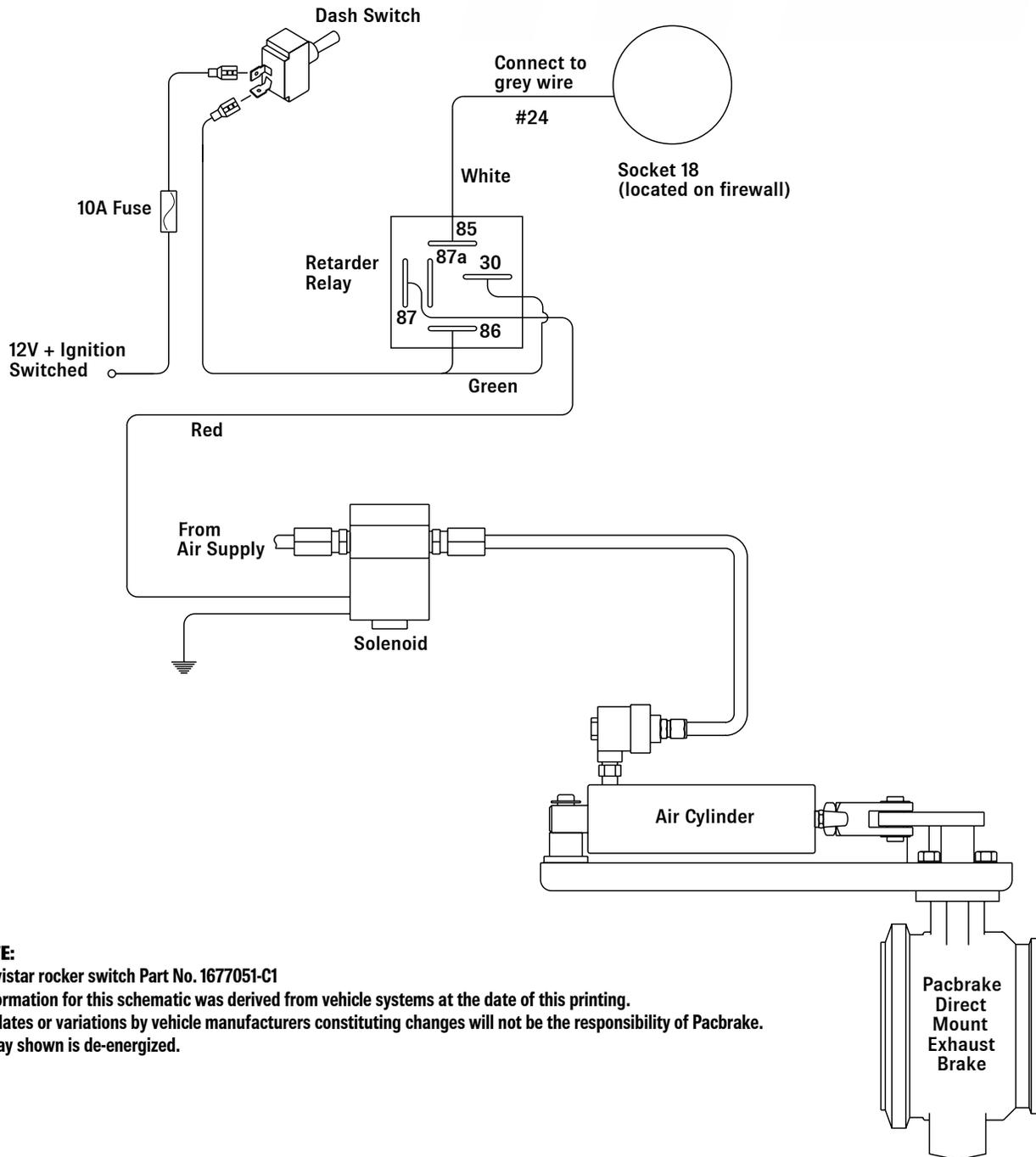


NOTE:

- * Ignition power must be capable of 12 VDC 20 amps.
- Navistar rocker switch Part No. 1677051-C1
- Information for this schematic was derived from vehicle systems at the date of this printing.
- Updates or variations by vehicle manufacturers constituting changes will not be the responsibility of Pacbrake.
- Relay shown is de-energized.

INTERNATIONAL DT466E/530E

FOR VEHICLES: ELECTRONIC FUEL CONTROL (PRIOR TO NAVPAK) (WITH) ON BOARD AIR SYSTEM

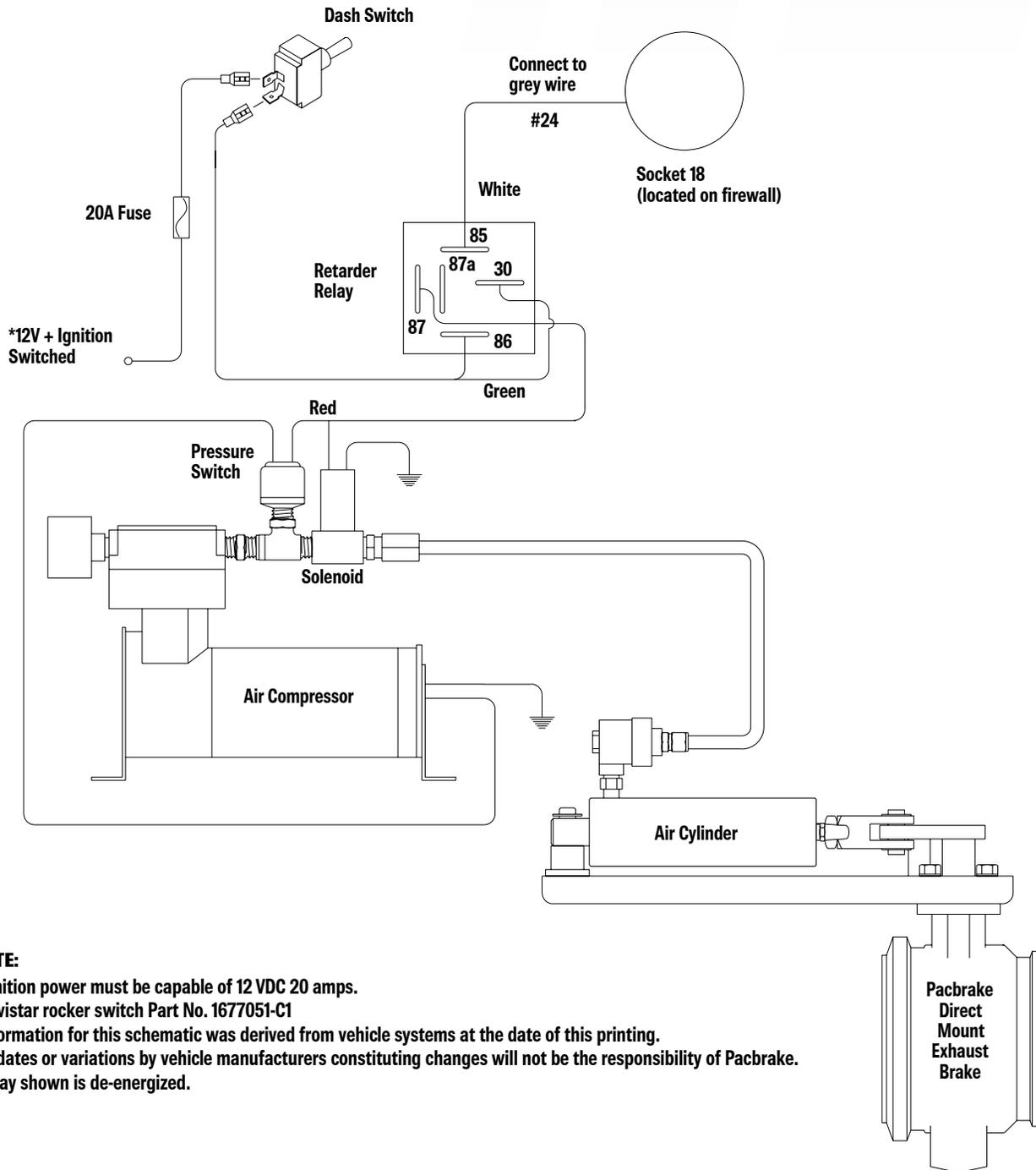


NOTE:

- Navistar rocker switch Part No. 1677051-C1
- Information for this schematic was derived from vehicle systems at the date of this printing.
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- Relay shown is de-energized.

INTERNATIONAL DT466E/530E

FOR VEHICLES: ELECTRONIC FUEL CONTROL (PRIOR TO NAVPAK) (WITHOUT) ON BOARD AIR SYSTEM

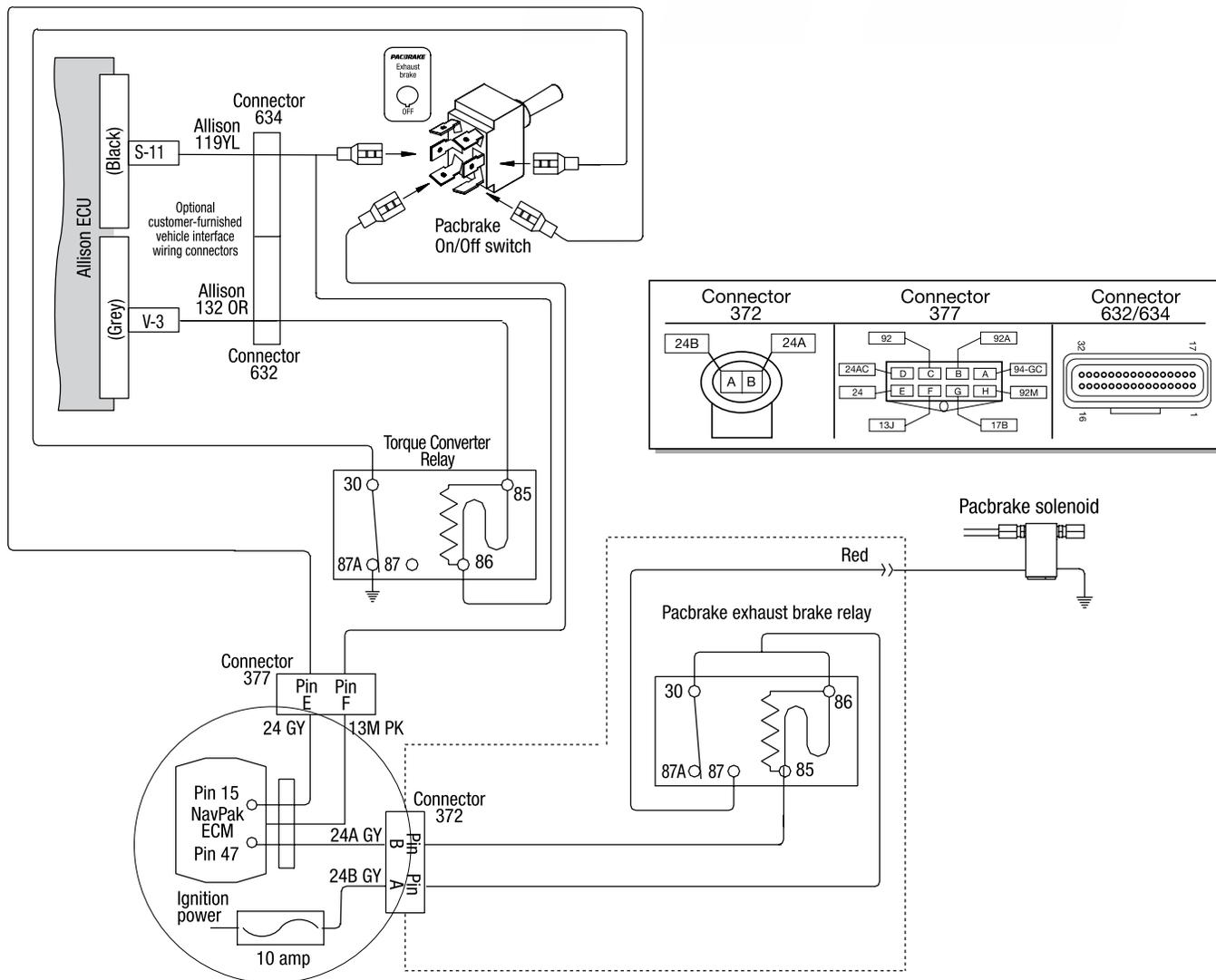


NOTE:

- *Ignition power must be capable of 12 VDC 20 amps.
- Navistar rocker switch Part No. 1677051-C1
- Information for this schematic was derived from vehicle systems at the date of this printing.
- Updates or variations by vehicle manufacturers constituting changes will not be the responsibility of Pacbrake.
- Relay shown is de-energized.

INTERNATIONAL 4700 & 4900 MODELS 444E/DT466E/DT530E NAVPAK SYSTEMS

FOR VEHICLES: (WITH) Allison MD 3060 WT III Transmission (WITH or WITHOUT) ABS Braking (WITH) On-board air supply



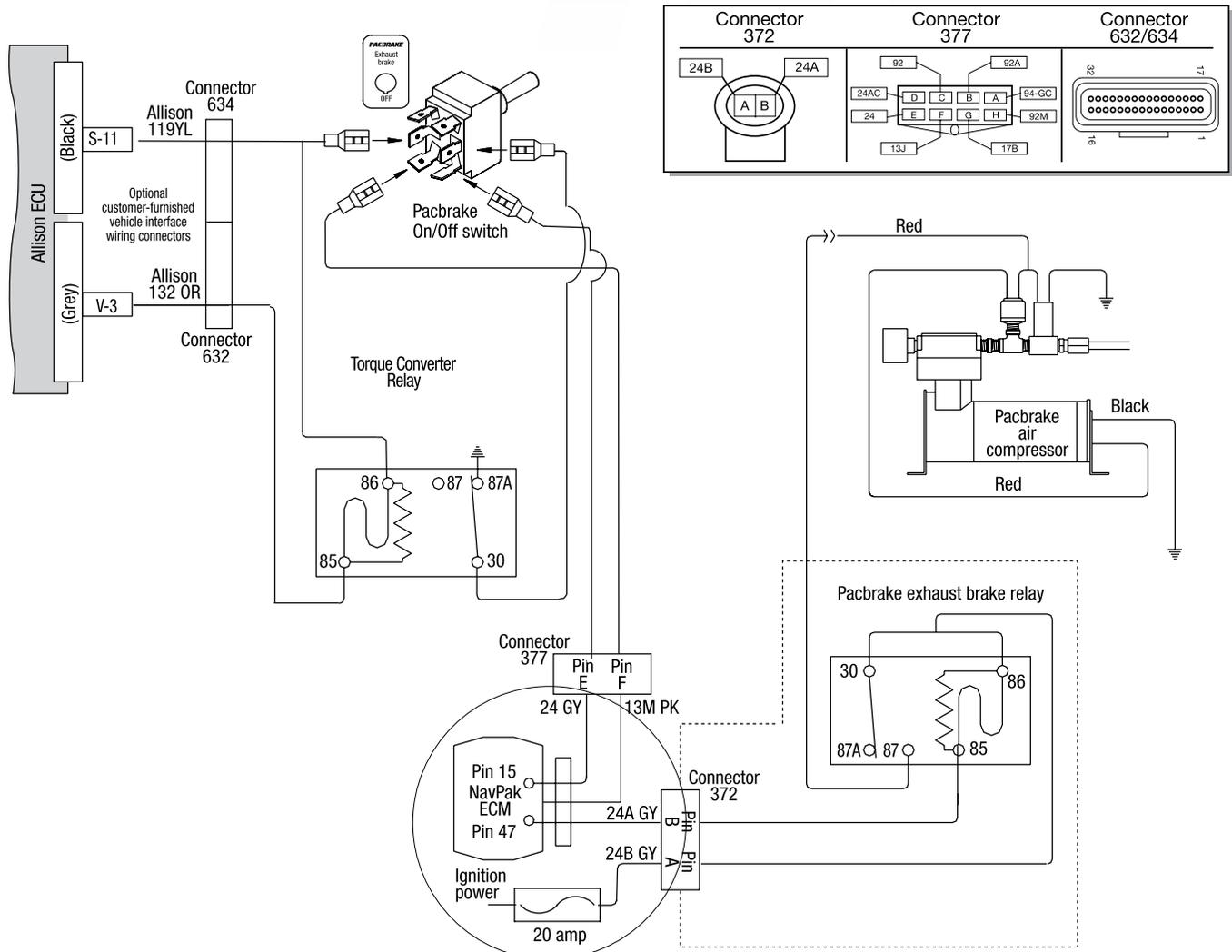
NOTE:

- Pacbrake wiring kit contains toggle type switch, source Navistar rocker switch part 1677051 if desired.
- Dotted area indicates Pacbrake harness PN11804
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- Dotted area indicates Pacbrake harness PN11804.
- Navistar supplies wires illustrated in circle areas.
- Relays shown are de-energized.
- Connector 372 located above starter on DT 466 and DT530. On 444E it is located behind the cylinder head driver's side.

- Remove plastic cap and connect to Pacbrake harness (supplied).
- 8 Pin connector 377 located behind fuse panel.
- Connector 632/634 located at Allison ECU.
- The NavPak ECM requires exhaust brake circuit to be enabled.
- Updates or variations by vehicle manufacturers constituting changes will not be the responsibility of Pacbrake.
- Information for this schematic was derived from vehicle systems at the date of this printing.

INTERNATIONAL 4700 & 4900 MODELS 444E/DT466E/DT530E NAVPAK SYSTEMS

FOR VEHICLES: (WITH) Allison MD 3060 Transmission (WITH or WITHOUT) ABS Braking (WITHOUT) On-board air supply



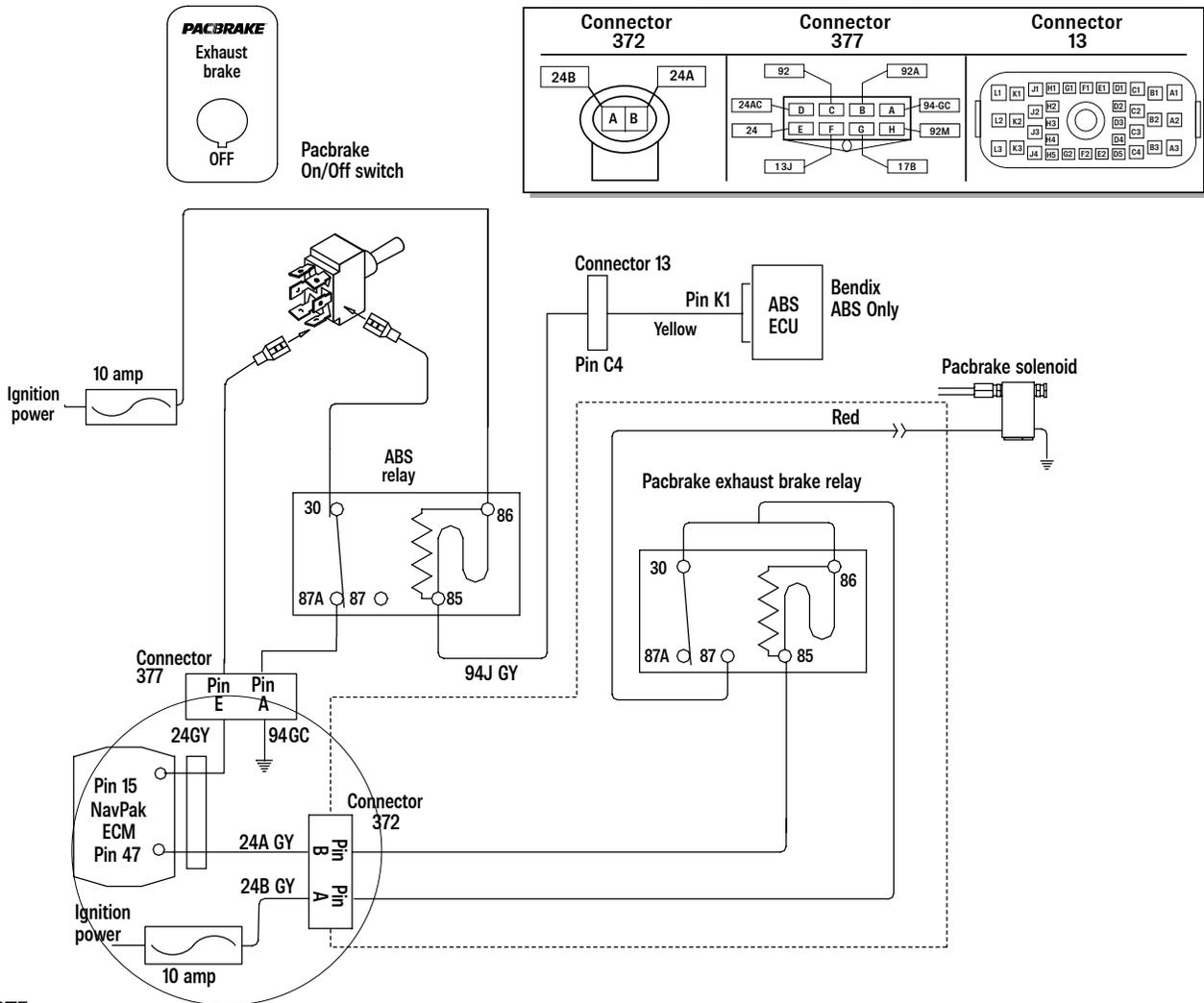
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- Relays shown are de-energized.
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- Remove plastic cap and connect to Pacbrake harness (supplied).
- 8 Pin connector 377 located behind fuse panel.
- Connector 632/634 located at Allison ECU.
- The NavPak ECM requires exhaust brake circuit to be enabled.
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- Information for this schematic was derived from vehicle systems at the date of this printing.

INTERNATIONAL 4700 & 4900 MODELS 444E/DT466E/DT530E NAVPAK SYSTEMS

FOR VEHICLES: (WITHOUT) Allison WT Transmission (WITH) ABS Braking (WITH) On-board air supply

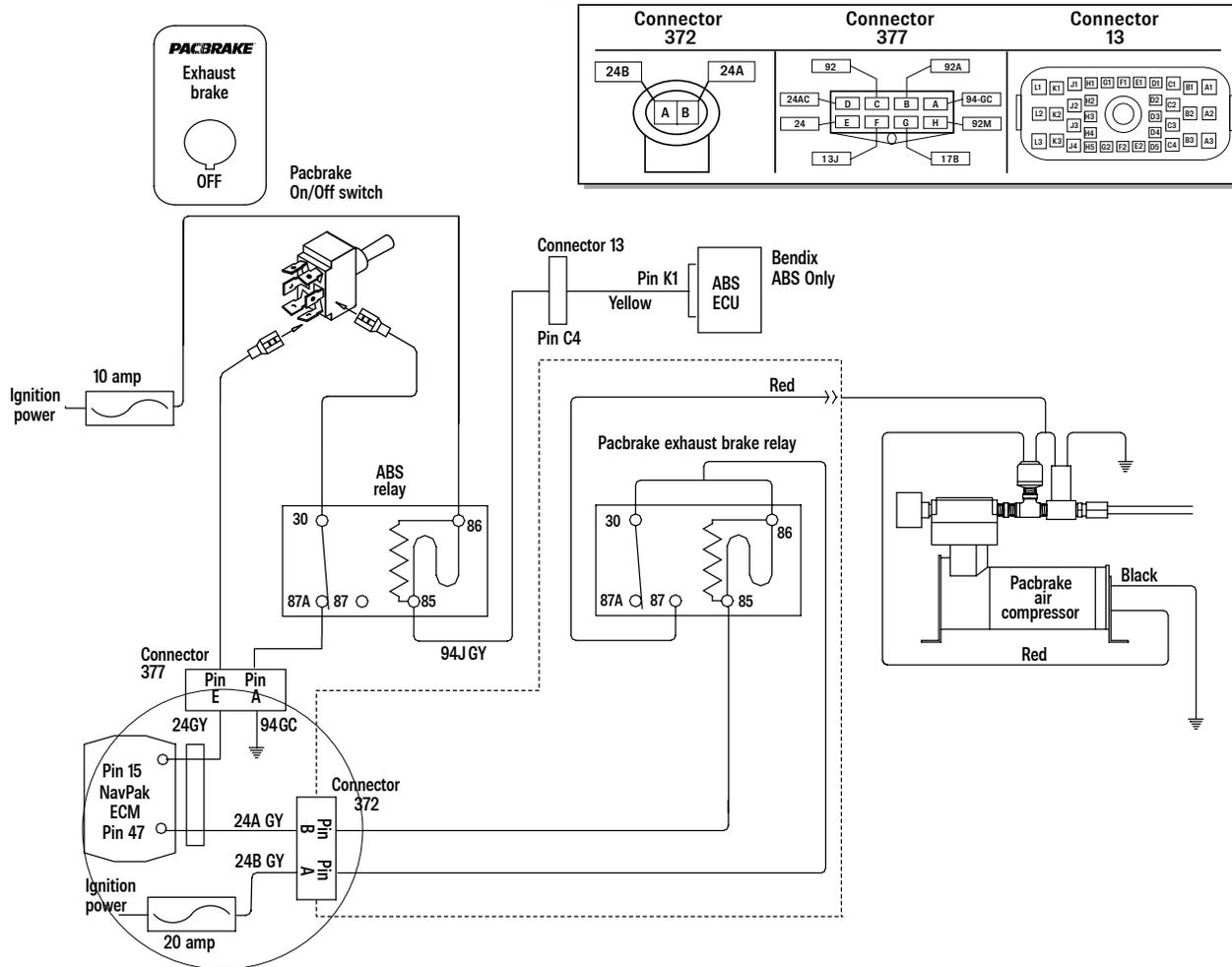


NOTE:

- Pacbrake wiring kit contains toggle type switch, source Navistar rocker switch part number 1619699-C2 if desired.
- The NavPak ECM requires exhaust brake circuit to be enabled.
- Relays shown are de-energized.
- Connector 372 located above starter on DT 466 and DT530. On 444E it is located behind the cylinder head drivers side. Remove protective cap and connect to Pacbrake harness (supplied).
- 8 Pin connector 377 located behind fuse panel.
- Connector 13 is on the firewall, drivers side.
- Dotted area indicates Pacbrake harness PN C11804.
- Navistar supplied wires illustrated in circled area.
- Information for this schematic was derived from vehicle systems at the date of this printing.
- Updates or variations by vehicle manufacturers constituting changes will not be the responsibility of Pacbrake.

INTERNATIONAL 4700 & 4900 MODELS 444E/ DT466E/DT530E NAVPAK SYSTEMS

FOR VEHICLES: (WITHOUT) Allison WT Transmission (WITH) ABS Braking
(WITHOUT) On-board air supply

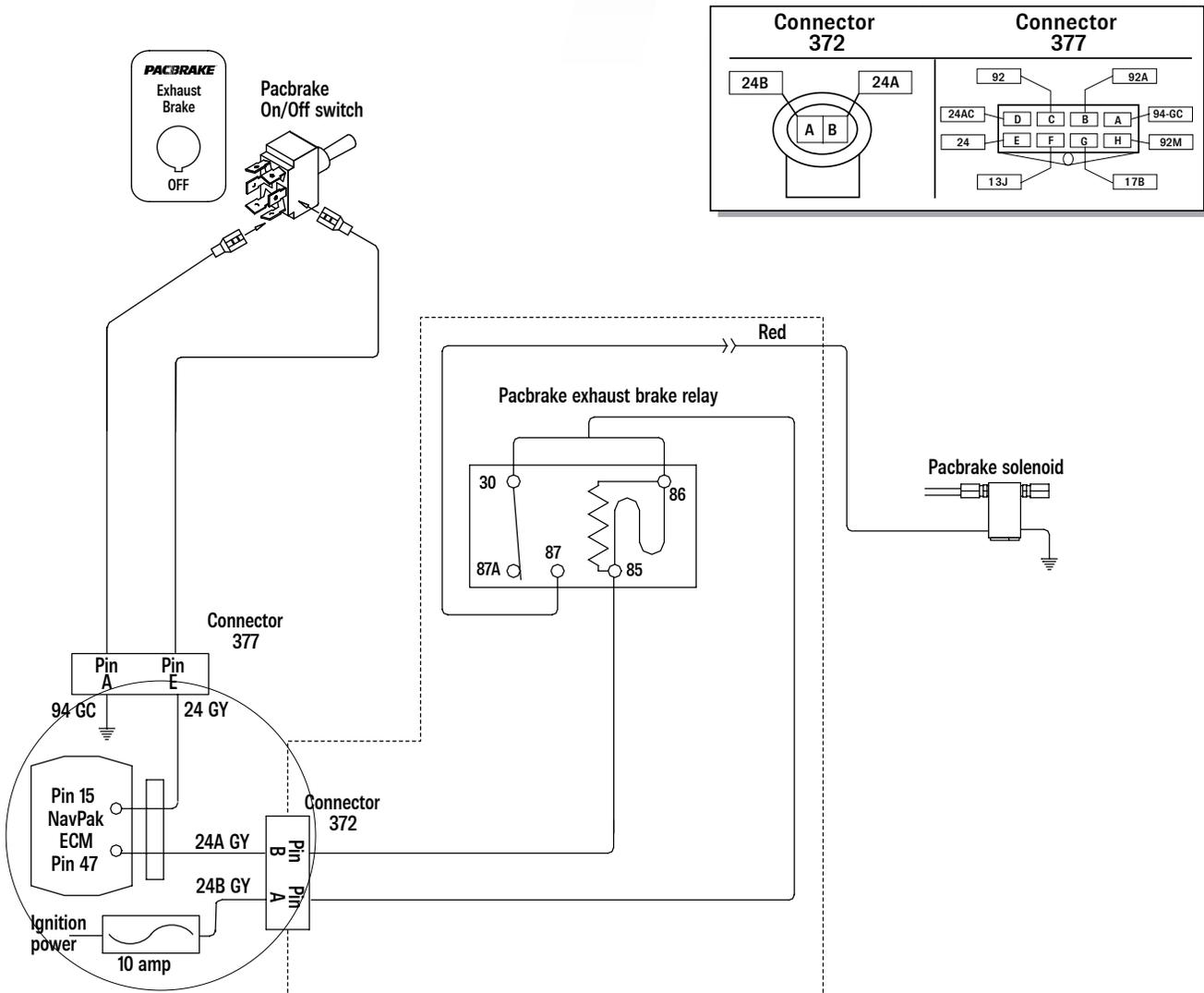


NOTE:

- Pacbrake wiring kit contains toggle type switch, source Navistar rocker switch part number 1619699-C2 if desired.
- The NavPak ECM requires exhaust brake circuit to be enabled.
- Relays shown are de-energized.
- Connector 372 located above starter on DT 466 and DT530. On 444E it is located behind the cylinder head drivers side. Remove protective cap and connect to Pacbrake harness (supplied).
- 8 Pin connector 377 located behind fuse panel.
- Connector 13 is on the firewall drivers side.
- Dotted area indicates Pacbrake harness PN C11804.
- Navistar supplied wires illustrated in circled area.
- Information for this schematic was derived from vehicle systems at the date of this printing.
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INTERNATIONAL 4700 & 4900 MODELS 444E/DT466E/DT530E NAVPAK SYSTEMS

FOR VEHICLES: (WITHOUT) Allison WT Transmission (WITHOUT) ABS Braking (WITH) On-board air supply

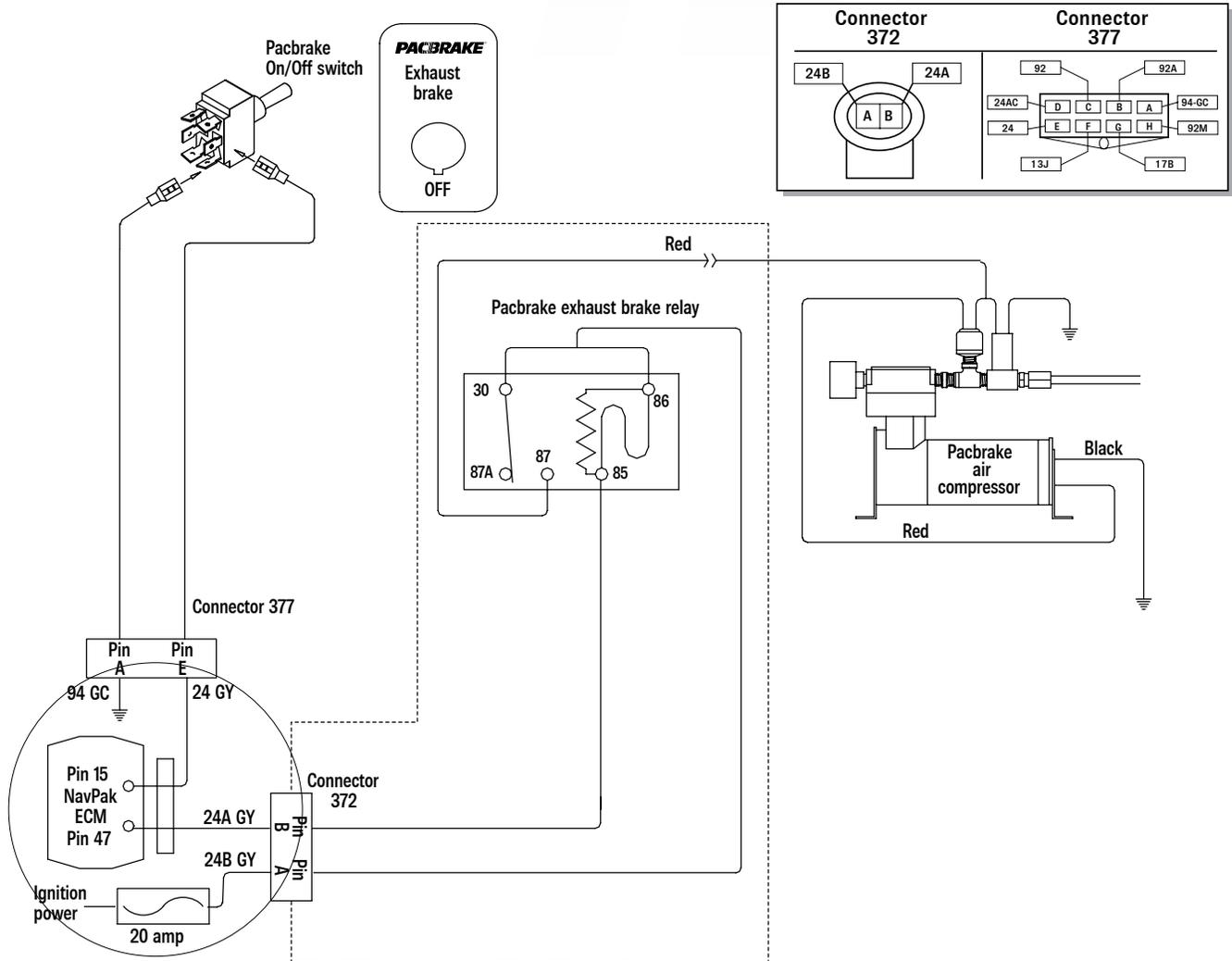


NOTE:

- Pacbrake wiring kit contains toggle type switch, source Navistar rocker switch part number 1677051-C1 if desired.
- The NavPak ECM requires exhaust brake circuit to be enabled.
- Relay shown is de-energized.
- Connector 372 located above starter on DT 466 and DT530. On 444E it is located behind the cylinder head drivers side. Remove protective cap and connect to Pacbrake harness (supplied).
- 8 Pin connector 377 located behind fuse panel.
- Dotted area indicates Pacbrake harness PN C11804.
- Navistar supplied wires illustrated in circled area.
- Information for this schematic was derived from vehicle systems at the date of this printing.
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INTERNATIONAL 4700 & 4900 MODELS 444E/DT466E/DT530E NAVPAK SYSTEMS

FOR VEHICLES: (WITHOUT) Allison WT Transmission (WITHOUT) ABS Braking (WITHOUT) On-board air supply



NOTE:

- Pacbrake wiring kit contains toggle type switch, source Navistar rocker switch part number 1619699-C2 if desired.
- The NavPak ECM requires exhaust brake circuit to be enabled.
- Relays shown are de-energized.
- Connector 372 located above starter on DT 466 and DT530. On 444E it is located behind the cylinder head drivers side. Remove protective cap and connect to Pacbrake harness (supplied).
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