

NISSAN DIESEL AMERICA, INC.

TECHNICAL BULLETIN FS-II

DATE: MARCH 30, 2007
MODEL YEAR: 2005 AND AFTER
ENGINE MODEL: ALL
CHASSIS MODEL: 1800CS ~ 3300
BULLETIN NUMBER: FS-11
FILE IN THE FUEL SECTION OF THE TECHNICAL BULLETIN BINDER

MALONE 50 AND 90 GALLON FUEL TANK OPTIONS

PURPOSE

The attached Installation Instructions have been developed for the optional Malone 50 and 90 gallon fuel tank kits for 2005 model year and after medium duty trucks.

INSTALLATION GUIDE

It is recommended that these installation guides be reviewed by the installer prior to the kit installation to assure proper operation of the Malone fuel tank. Retain these guides in the service shop as reference information.

Note: Replacement parts for these options can be ordered through the UD Extra program.

Table with 4 columns and 3 rows. Row 1: THE INFORMATION CONTAINED IN THIS BULLETIN SHOULD NOT BE INTERPRETED AS THE BASIS FOR WARRANTY CLAIMS. Row 2: FOR THE INDICATED PERSONNEL BELOW, PLEASE READ, INITIAL, AND ROUTE TO THE FOLLOWING: Row 3: X SERVICE MANAGER, X WARRANTY MANAGER, X SERVICE TECHNICIANS INITIAL BELOW: Row 4: X PARTS MANAGER, X SHOP FOREMAN, empty cells.

**MALONE SPECIALTY INC.**7788 Metric Dr., Mentor, Ohio 44060
(440) 255-4200 Fax (440) 255-0458
E-Mail malonemail@malonespecialtyinc.com**Accessory Installation Instructions****Description:**18" 50 Gallon Tank kit to replace
a single 16" 33 gallon tank.**Models:**
Medium
Duty**Year:**
ALL**Date:**
2/26/07

Revision: 1a

Part Number:
MSRTIK50**Page:**
1 of 3**Part Information:**

This kit replaces an OEM 16" diameter, 33 gallon tank, 44.5" long with a 18" diameter, 50 gallon, 49.5" long tank. This kit fits all models that has an OEM 33 gallon tank with a wheel-base long enough to add this 5" longer tank.

Part Number	Item Number	Qty	Description
MSFT1850A	1	1	18" Diameter, 50 Gallon fuel tank, 49.5" Long
MSFTB18	2	2	18" J-Bracket with insulator
16KSTRAP	3	1	16" K-Strap with Nuts, washers & rubber insulator
UD1850-SENDER	4	1	Sending Unit
UDJHP	5	1	J-Bracket Hardware Package
HBMP900606	6	2	3/8" hose barb X Male 3/8" NPT 90 degree
5321K16	7	4	Worm Clamp (Hose)
DECAL	8	1	Decal - "DIESEL FUEL ONLY"
MPFP1214	9	1	1/2 to 1/4 Bushing
30R7-06	10	10'	3/8" Fuel Line Hose

Note: Item #1 is sold separately

WARNING

This kit contains all the hardware, fittings, and other material necessary to properly and safely install the accessory you purchased. **DO NOT SUBSTITUTE ANY HARDWARE, FITTINGS, OR OTHER MATERIALS FOR THOSE SUPPLIED IN THIS KIT. SUBSTITUTIONS MAY CAUSE RISK OF PERSONAL INJURY;** damage to the accessory kit you are installing; and damage to the vehicle or device you are installing the accessory kit on. Any substitution of the materials supplied in this kit without written authorization from Malone Specialty Inc. will void all warranties, expressed or implied.

IMPORTANT

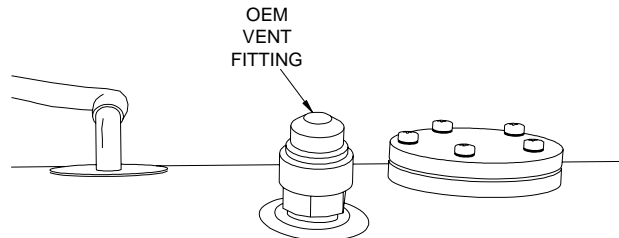
EMPTY THE OEM TANK OF ALL FUEL BEFORE PROCEEDING

Remove OEM tank and brackets:

Disconnect the supply and return fuel hose lines from the OEM tank.

Disconnect the sender from the vehicle chassis harness.

Remove the OEM tank vent fitting. **Save for use later.**



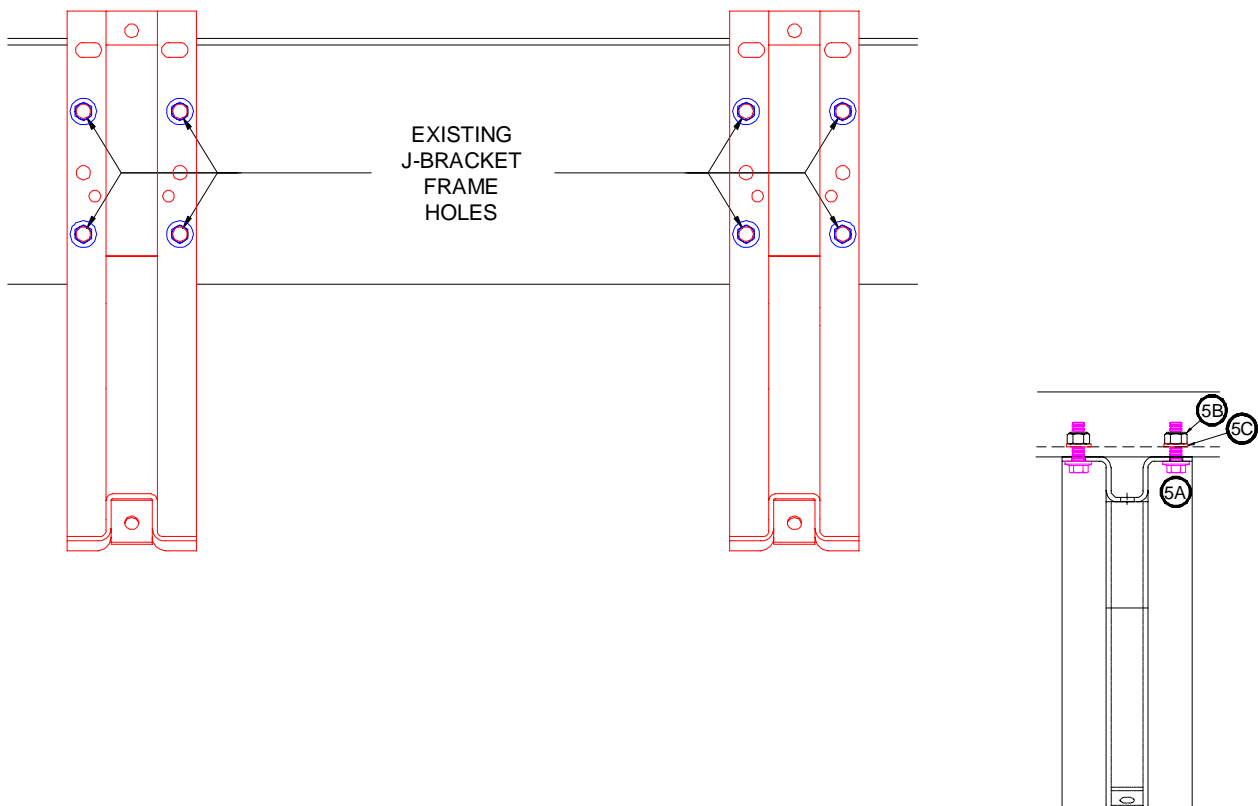
Loosen and remove each of the **TOP** two strap nuts. Remove the strap tee bolt from the brackets securing the tank to the brackets.

Lift and remove the tank from the brackets and set the tank aside.

Remove J-Bracket mounting hardware and remove both OEM J-Brackets (including straps).

Install J-Bracket (Item 2)

Mount J-Brackets using four (8) bolts (Item 5a), flat washers (Item 5c) and nuts (Item 5b). Make sure J-Bracket is plumb and tighten hardware to 44 ft./lbs.



Install Tank (Item 1)

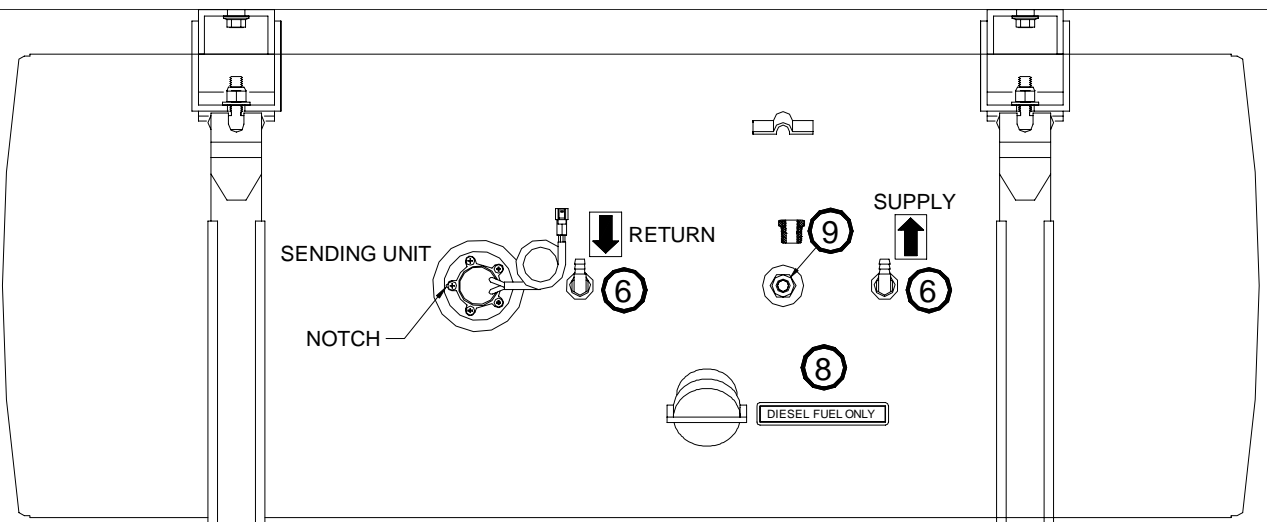
Mount tank (Item 1) to brackets using two straps (Item 3). Position tank so fill spout is facing outward and away from frame and the top of the sender opening is horizontal to the top of the frame. Make sure that the entire strap will lay flat against the tank. Tighten evenly top and bottom strap bolts to 27 ft/lbs.

Install Sending Unit (Item 4)

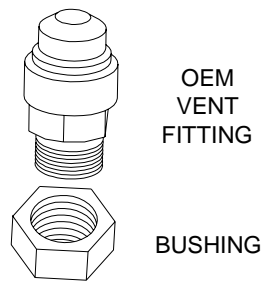
Install sending unit (Item 4) into the new tank and secure with 5 bolts supplied with the sending unit. Make sure to include the sender gasket before installing the hardware. Note: the sending unit hole pattern can only be installed one way. Make sure the sending unit is oriented correctly. DO NOT modify the sending unit or the sending unit tank flange.

Install Supply and Return Fittings (Items 6) and Decal (Item 8) as shown below.

Remove the plug from the vent fitting port and install the Bushing (Item 9).



Reinstall the OEM vent fitting removed from the original tank into the bushing (Item 9).



Install and route the supply and return hose from the vehicle to the new fuel tank. Use hose (Item 10) and hose clamps (Item 7) as required to make final hose connections. New hose routing and new hose connections should be identical to the original tank.

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Accessory Installation Instructions

Description: 22" 90 Gallon Tank kit to replace a single 22" 50 gallon tank.	Models: Medium Duty	Year: ALL	Date: 4/14/09	Part Number: MSRTIK90	Page: 1 of 6
			Revision: 6		

Part Information:

This kit replaces an OEM 22" diameter, 50 gallon tank, 34.5" long with a 22" diameter, 90 gallon, 61" long tank. This kit fits all models that has an OEM 50 gallon tank with a wheel-base long enough to add this 26.5" longer than OEM tank.

No sender is supplied with this kit. The OEM supplied sender must be reused.

Part Number	Item Number	Qty	Description
MSFT2290B*	1	1	22" Diameter, 90 Gallon fuel tank, 61" Long
22KBKT	2	1	22" K-Bracket with insulator
22KSTRAPA	3	1	22" K-Strap with Nuts, washers & rubber insulator
UDKBHP-2	4	1	K-Bracket Hardware Package (Single)
5321K16	5	4	Worm Clamp (Hose)
HBMP900606	6	2	3/8" Hose Barb X Male 3/8" NPT 90 degree
DECAL	7	1	Decal - "DIESEL FUEL ONLY"
30R7-06	8	10'	3/8" Fuel Line Hose
MPFP1214	9	1	1/2" to 1/4" Bushing
DECAL-LS	10	1	Warning Label-"Ultra Low Sulfur Diesel Fuel Only"

*Item 1 sold separately

WARNING

This kit contains all the hardware, fittings, and other material necessary to properly and safely install the accessory you purchased. DO NOT SUBSTITUTE ANY HARDWARE, FITTINGS, OR OTHER MATERIALS FOR THOSE SUPPLIED IN THIS KIT. SUBSTITUTIONS MAY CAUSE RISK OF PERSONAL INJURY; damage to the accessory kit you are installing; and damage to the vehicle or device you are installing the accessory kit on. Any substitution of the materials supplied in this kit without written authorization from Malone Specialty Inc. will void all warranties, expressed or implied.

IMPORTANT

EMPTY THE OEM TANK OF ALL FUEL BEFORE PROCEEDING

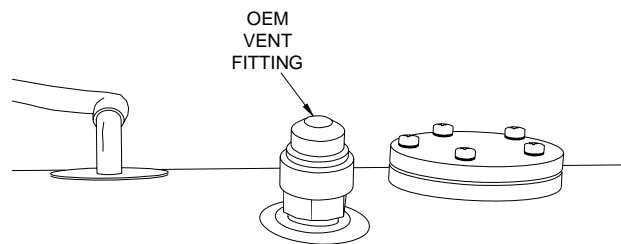
Remove OEM tank:

Disconnect the supply and return fuel hose lines from the OEM tank.

Disconnect the sender from the vehicle chassis harness.

Remove the sending unit from the tank and save the sender and sender hardware for reinstallation into new tank.

Remove the OEM tank vent fitting. **Save for use later.**



Page: 3 of 6	Part Number: MSRTIK90	Description: 22" 90 gallon tank kit to replace 22" 50 gallon Tank
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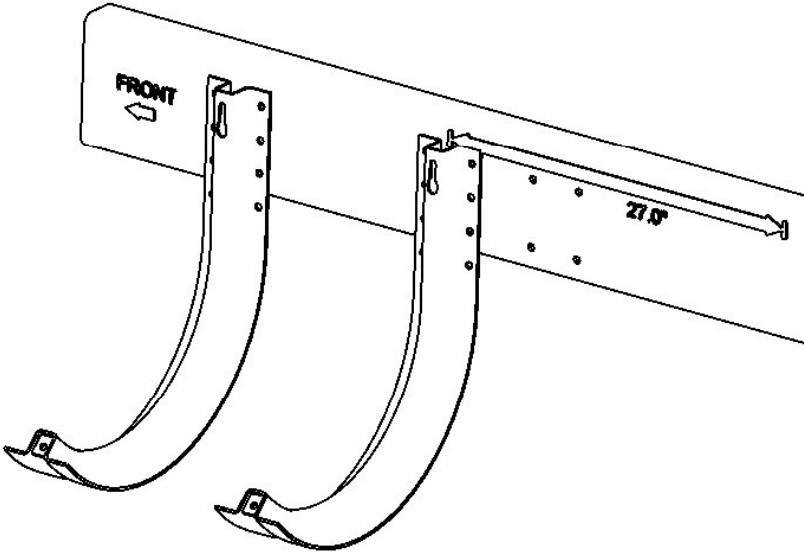
Loosen and remove each of the **TOP** two strap nuts. (Save these nuts). Remove the strap tee bolt from the brackets securing the tank to the brackets.

Lift and remove the tank from the brackets and set the tank aside.

Install the additional K-Bracket (Item 2)

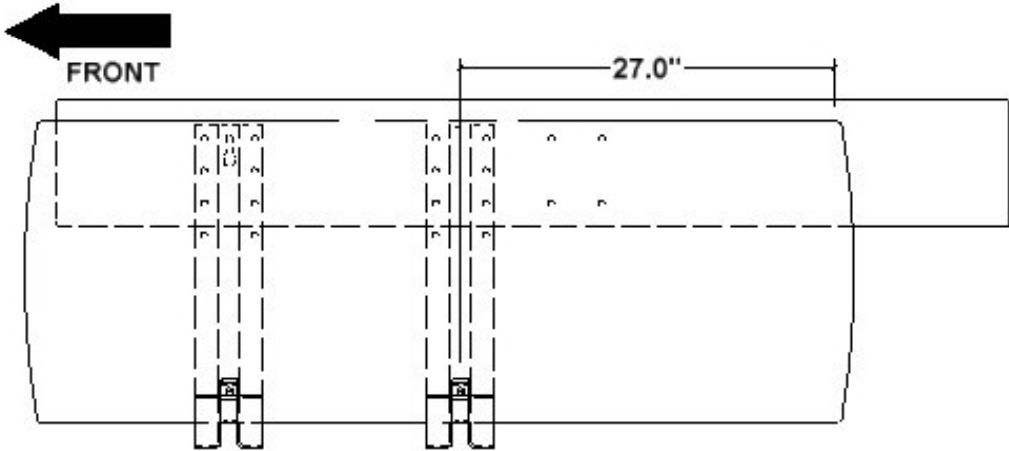
Horizontal measurement: (ALL MODEL YEARS)

Measure 27" horizontally from the center of the rear OEM J-Bracket.



Vertical measurement: (ALL MODEL YEARS)

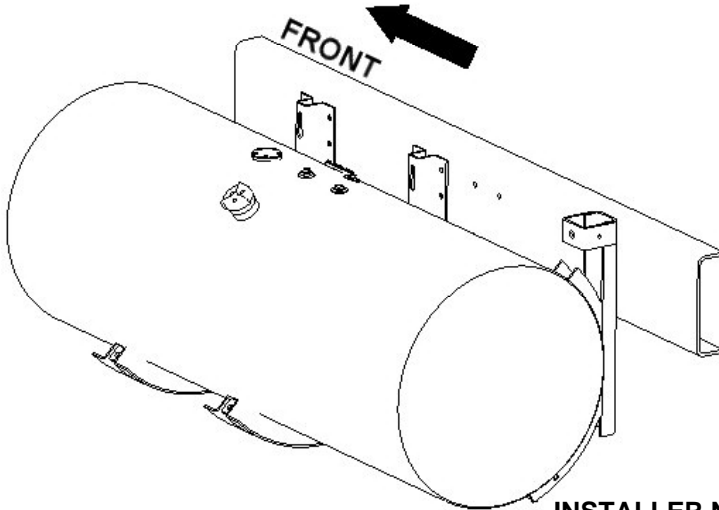
Mount fuel tank (Item 1) to OEM J-Brackets and cantilever the tank 27" from the rear J-bracket.



Page:
4 of 6

Part Number:
MSRTIK90

Description:
22" 90 gallon tank kit to replace 22" 50 gallon
Tank



With the tank sitting firmly on the OEM J-Brackets slide the K-Bracket (Item 2) underneath the tank and against the frame. When the brackets vertical location is determined mark the frame using the mounting holes in the K-Bracket.

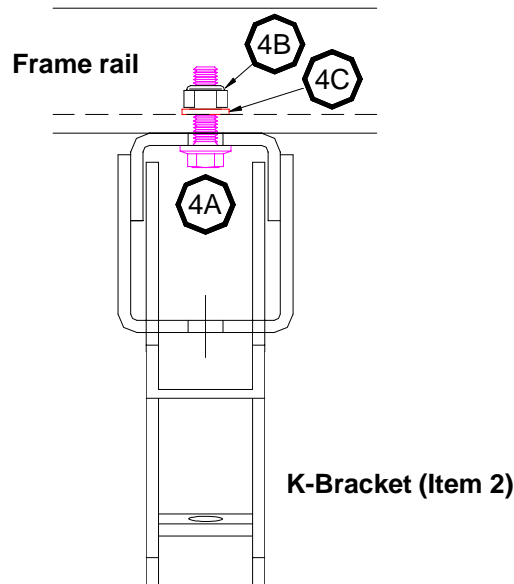
Remove the K-Bracket and tank. Using the marks from above center punch and drill 2 (two) 12.5mm (.500) holes through the frame rail. Use care when drilling to avoid damage to vehicle wire harness, brake or fuel lines. **It is recommended that you start with a smaller 1/4" pilot hole, a 3/8" bit and finally a 1/2" diameter drill bit.**

INSTALLER NOTE:

Generally, the vertical location will put the top of the K-Bracket **EQUAL** ($\pm 1/8$) to the top of the frame rail. **If you are installing this kit on a 2009 UD2600 the K-Bracket will extend ABOVE the from rail 15mm (.591").** In all cases use the procedure above to determine the proper vertical location of the K-Bracket (Item 2). Proper installation will insure that the tank is supported properly vertically and horizontally along the entire length of the fuel tank. If you have any questions please call the phone number provided on Page 1.

Install K-Bracket (Item 2)

Mount K-Bracket using bolt (Item 4a), flat washer (Item 4c) and nut (Item 4b) found in the K-Bracket hardware package (Item 4). Make sure K-Bracket in plumb and tighten hardware to 44 ft./lbs.



Install Tank (Item 1)

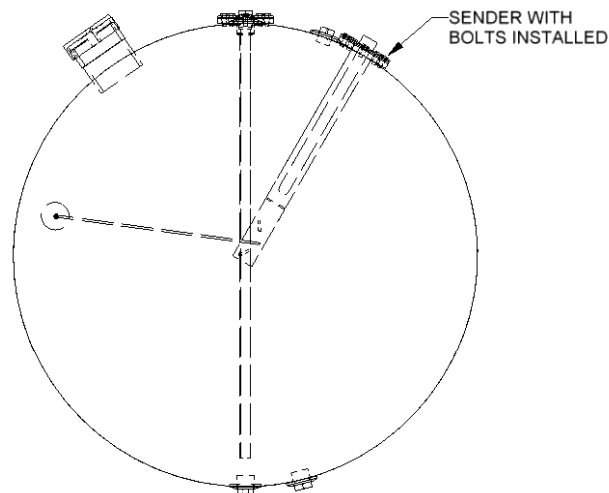
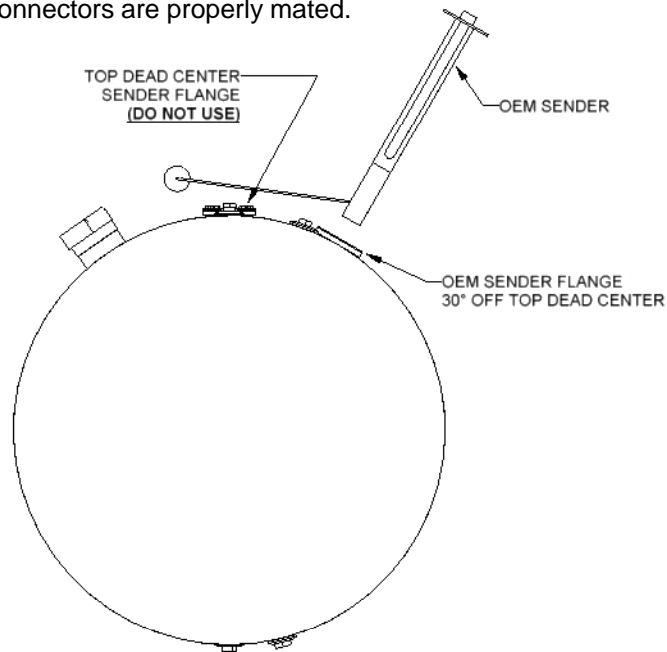
Mount tank (Item 1) to brackets using two existing tank straps and new strap (Item 3). Position tank so fill spout is facing outward and away from frame and the top of the sender opening is horizontal to the top of the frame. Make sure that the entire strap will lay flat against the tank. Tighten evenly top and bottom strap bolts to 27 ft./lbs.

Install Sending Unit

Install original OEM sending unit into the new tank and secure with 5 bolts removed from the original tank. Make sure to include the sender gasket before installing the hardware. **NOTE:** There are two sending unit flanges on the tank and it is important to install the OEM sending unit in the proper sender flange.

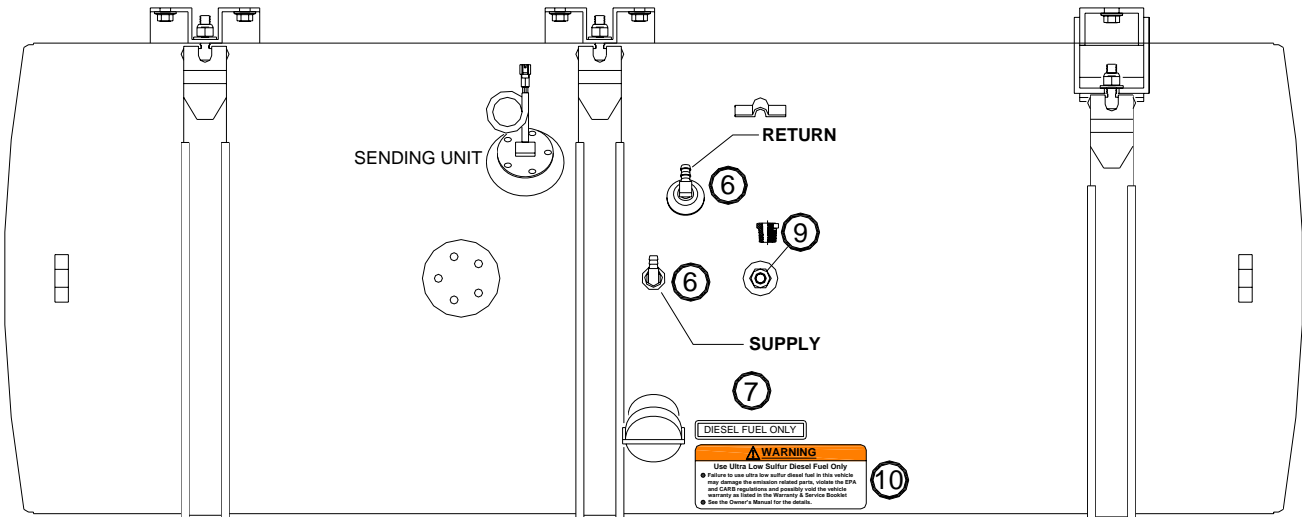
Mount the existing OEM sending unit to the flange that is 30° from the top of the tank. DO NOT install the OEM sender to the flange located on the top of the tank. The sender will not operate properly. Note: the sending unit hole pattern can only be installed one way. Make sure the sending unit is oriented correctly. DO NOT modify the sending unit or the sending unit tank flange. The sweep of the sender float will ride from the front of the tank to the rear of the tank as shown in sketch below when properly installed.

After sender is installed route the connector toward the vehicle chassis harness and reconnect the two connectors. Make sure the connectors are properly mated.

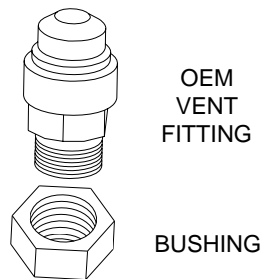


Install Supply and Return Fittings (Item 6), Decal (Item 7) and Decal-LS (Item 10) as shown below.

Remove the plug from the vent fitting port and install the bushing (Item 9).



Reinstall the vent fitting removed from the original tank into the bushing (Item 9).



Install and route the supply and return hose from the vehicle to the new fuel tank. Use hose (Item 8) and hose clamps (Item 5) as required to make final hose connections. New hose routing and new hose connections should be identical to the original tank.

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Accessory Installation Instructions

Description: 22" 90 Gallon Aluminum Tank kit to replace a single 22" 50 gallon tank.	Models: Medium Duty	Year: ALL	Date: 7-14-09	Part Number: MSRTIK90E	Page: 1 of 6
			Revision: 3		

Part Information:

This kit replaces an OEM 22" diameter, 50 gallon tank, 34.5" long with a 22" diameter, 90 gallon, 61" long tank. This kit fits all models that has an OEM 50 gallon tank with a wheel-base long enough to add this 26.5" longer than OEM tank.

A sender (Item 11) is supplied with this kit. The OEM supplied sender must **NOT** be reused.

Part Number	Item Number	Qty	Description
MSFT2290C	1	1	22" Diameter, 90 Gallon Aluminum fuel tank, 61" Long
22KBKT	2	1	22" K-Bracket with insulator
22KSTRAPA	3	1	22" K-Strap with Nuts, washers & rubber insulator
UDKBHP-2	4	1	K-Bracket Hardware Package (Single)
5321K16	5	4	Worm Clamp (Hose)
HBMP900606	6	2	3/8" Hose Barb X Male 3/8" NPT 90 degree
DECAL	7	1	Decal - "DIESEL FUEL ONLY"
30R7-06	8	10'	3/8" Fuel Line Hose
MPFP1214	9	1	1/2" to 1/4" Bushing
DECAL-LS	10	1	Warning Label-"Ultra Low Sulfur Diesel Fuel Only"
UD2290-SENDER	11	1	Fuel Sender

WARNING

This kit contains all the hardware, fittings, and other material necessary to properly and safely install the accessory you purchased. DO NOT SUBSTITUTE ANY HARDWARE, FITTINGS, OR OTHER MATERIALS FOR THOSE SUPPLIED IN THIS KIT. SUBSTITUTIONS MAY CAUSE RISK OF PERSONAL INJURY; damage to the accessory kit you are installing; and damage to the vehicle or device you are installing the accessory kit on. Any substitution of the materials supplied in this kit without written authorization from Malone Specialty Inc. will void all warranties, expressed or implied.

IMPORTANT

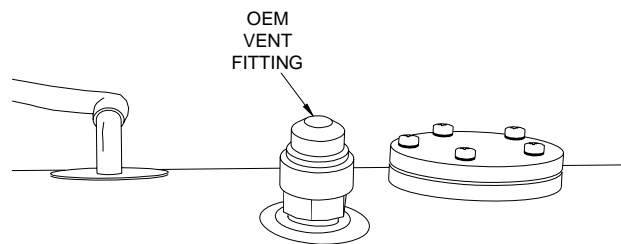
EMPTY THE OEM TANK OF ALL FUEL BEFORE PROCEEDING

Remove OEM tank:

Disconnect the supply and return fuel hose lines from the OEM tank.

Disconnect the sender connector from the vehicle chassis harness connector.

Remove the OEM tank vent fitting. **Save for use later.**



Page: 3 of 6	Part Number: MSRTIK90E	Description: 22" 90 gallon aluminum tank kit to replace 22" 50 gallon Tank
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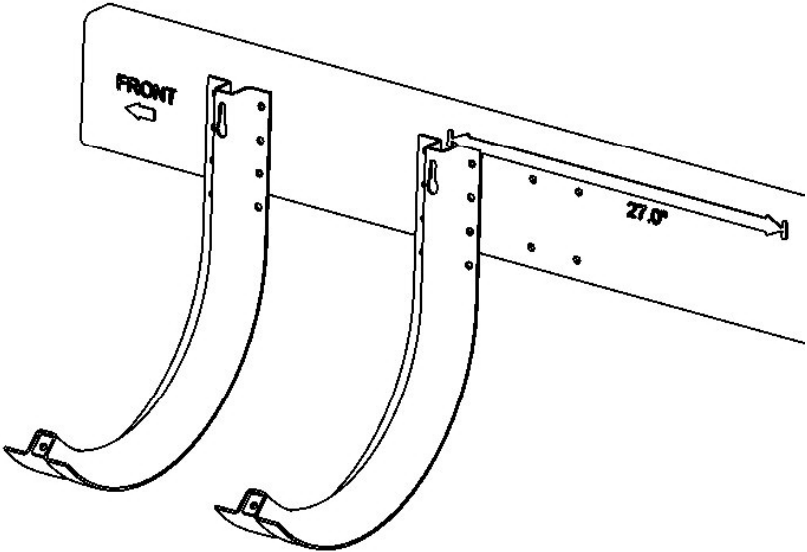
Loosen and remove each of the **TOP** two strap nuts. (Save these nuts). Remove the strap tee bolt from the brackets securing the tank to the brackets.

Lift and remove the tank from the brackets and set the tank aside.

Install the additional K-Bracket (Item 2)

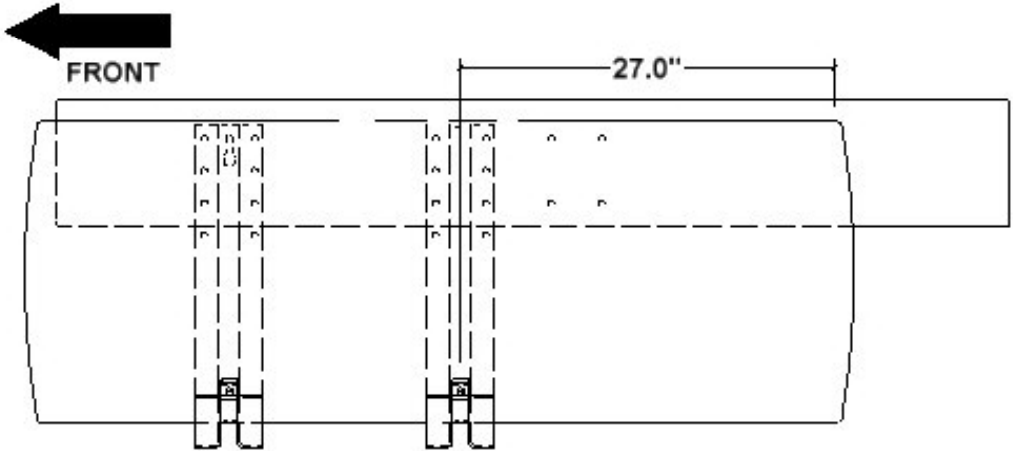
Horizontal measurement: (ALL MODEL YEARS)

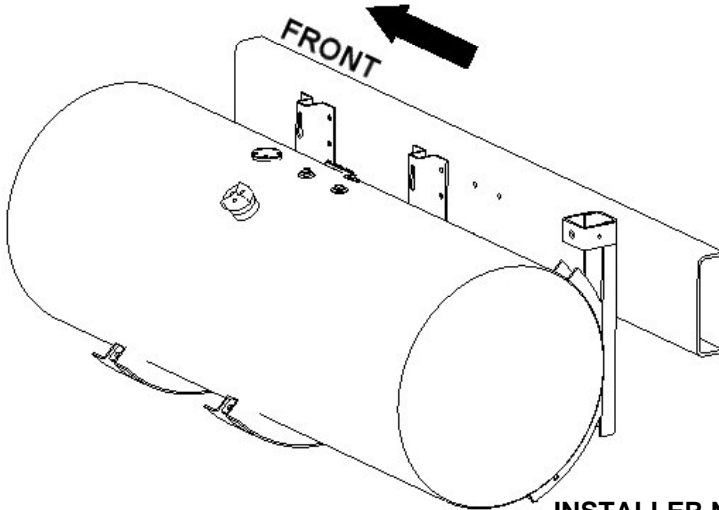
Measure 27" horizontally from the center of the rear OEM J-Bracket.



Vertical measurement: (ALL MODEL YEARS)

Mount fuel tank (Item 1) to OEM J-Brackets and cantilever the tank 27" from the rear J-bracket.





With the tank sitting firmly on the OEM J-Brackets slide the K-Bracket (Item 2) underneath the tank and against the frame. When the brackets vertical location is determined mark the frame using the mounting holes in the K-Bracket.

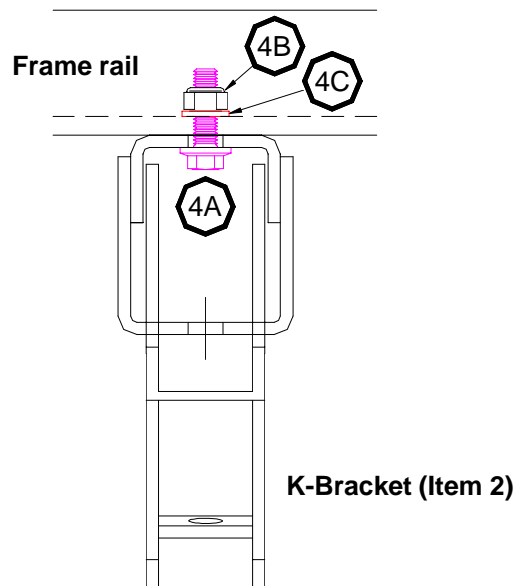
Remove the K-Bracket and tank. Using the marks from above center punch and drill 2 (two) 12.5mm (.500) holes through the frame rail. Use care when drilling to avoid damage to vehicle wire harness, brake or fuel lines. **It is recommended that you start with a smaller 1/4" pilot hole, a 3/8" bit and finally a 1/2" diameter drill bit.**

INSTALLER NOTE:

Generally, the vertical location will put the top of the K-Bracket **EQUAL** ($\pm 1/8$) to the top of the frame rail. **If you are installing this kit on a 2009 UD2600 the K-Bracket will extend ABOVE the from rail 15mm (.591").** In all cases use the procedure above to determine the proper vertical location of the K-Bracket (Item 2). Proper installation will insure that the tank is supported properly vertically and horizontally along the entire length of the fuel tank. If you have any questions please call the phone number provided on Page 1.

Install K-Bracket (Item 2)

Mount K-Bracket using bolt (Item 4a), flat washer (Item 4c) and nut (Item 4b) found in the K-Bracket hardware package (Item 4). Make sure K-Bracket in plumb and tighten hardware to 44 ft./lbs.



Install Tank (Item 1)

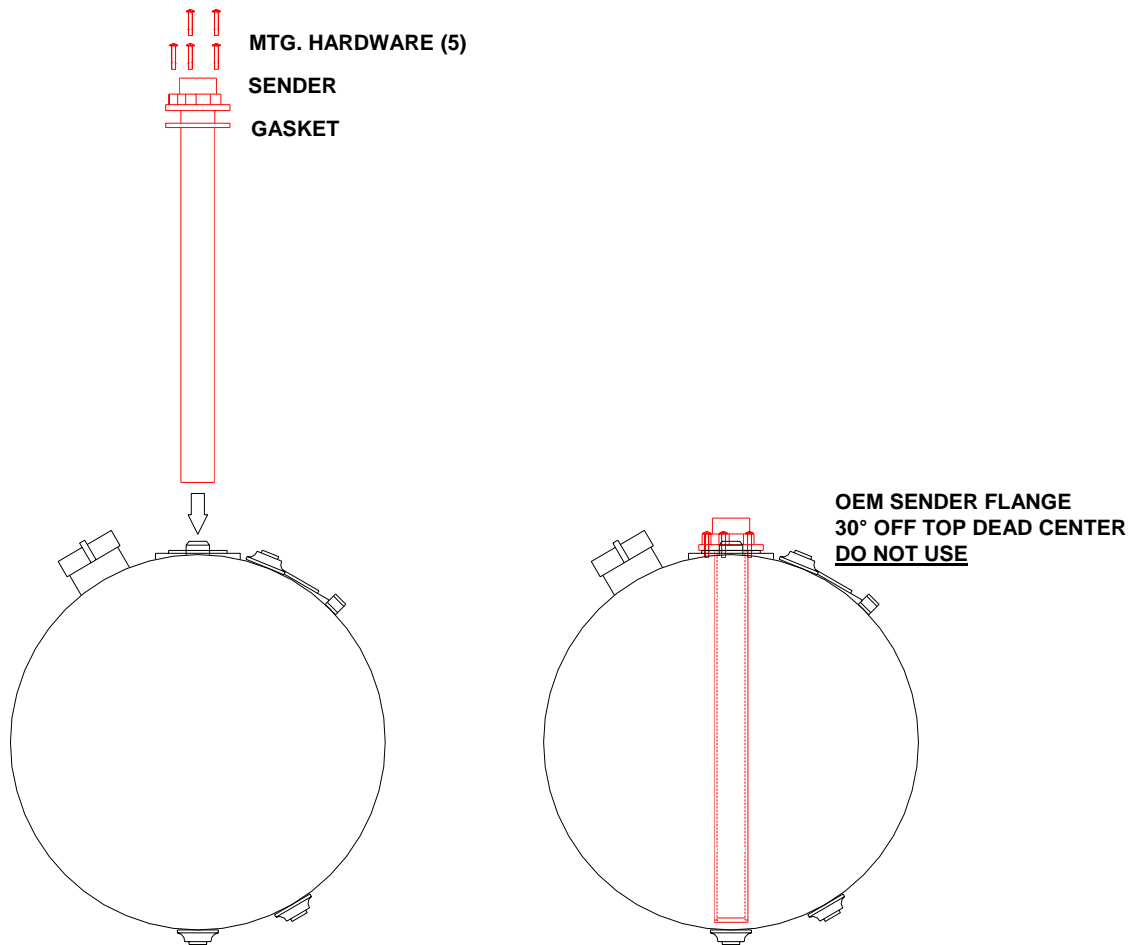
Mount tank (Item 1) to brackets using two existing tank straps and new strap (Item 3). Position tank so fill spout is facing outward and away from frame and the top of the sender opening is horizontal to the top of the frame. Make sure that the entire strap will lay flat against the tank. Tighten evenly top and bottom strap bolts to 27 ft./lbs.

Install Sending Unit (Item 11)

Install new sending unit (Item 11) into the new tank and secure with 5 screws supplied with sender. Make sure to include the sender gasket before installing the hardware. **NOTE:** There are two sending unit flanges on the tank and it is important to install the new (Item 11) sending unit in the proper sender flange.

Mount the new sending unit to the flange that is located on top of the tank. DO NOT install the new sender to the flange located 30° from the top of the tank. The sender will not operate properly. Note: the sending unit hole pattern can only be installed one way. Make sure the sending unit is oriented correctly. DO NOT modify the sending unit or the sending unit tank flange.

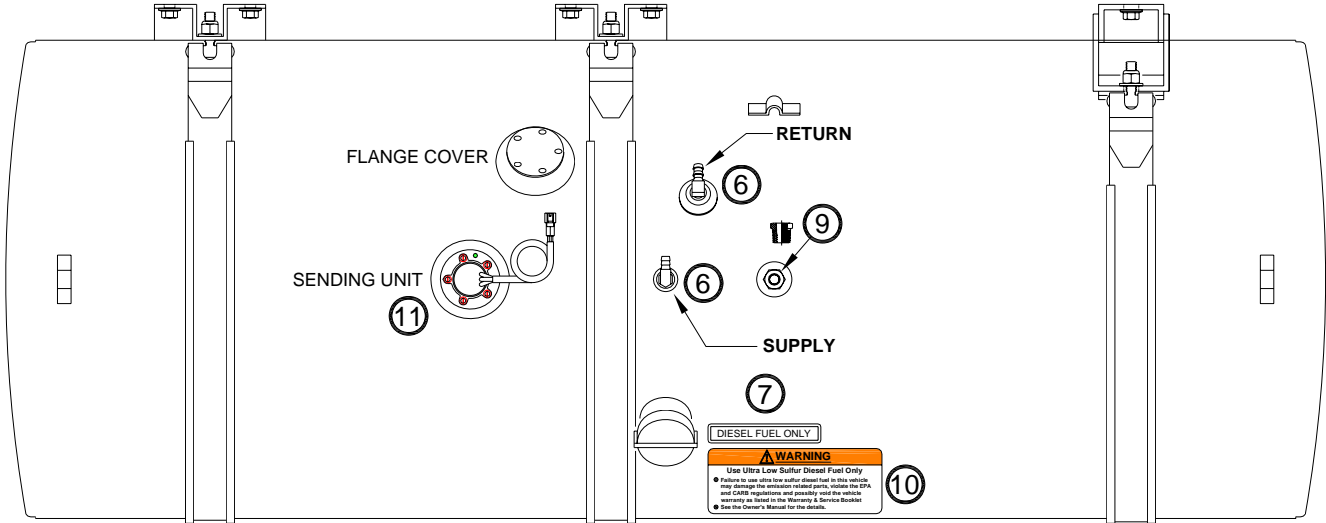
After sender is installed route the sender connector toward the vehicle chassis harness and reconnect the two connectors. Make sure the connectors are properly mated.



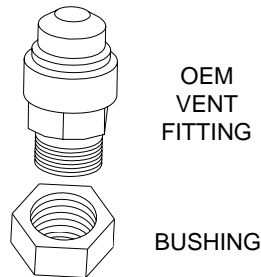
Installer note: The sender (Item 11) is provide to avoid mounting unlike metals each other (aluminum to steel). While it is possible to use the OEM sender in this aluminum tank at the 30° sender flange we do not recommend it. Doing so will void any part kit warranties.

Install Supply and Return Fittings (Item 6), Decal (Item 7) and Decal-LS (Item 10) as shown below.

Remove the plug from the vent fitting port and install the bushing (Item 9).



Reinstall the vent fitting removed from the original tank into the bushing (Item 9).



Install and route the supply and return hose from the vehicle to the new fuel tank. Use hose (Item 8) and hose clamps (Item 5) as required to make final hose connections. New hose routing and new hose connections should be identical to the original tank.