



UNITED TECHNOLOGIES CARRIER TRANSCOLD

Carrier Transcold Division
Carrier Corporation
P.O. Box 4605
Syracuse, New York 13221

THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT.

SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT

PART NO.	MODEL DESCRIPTION
98-03292-00	LOW FUEL SENSOR (22" DIAMETER TANK)
98-03292-01	LOW FUEL SENSOR (36.5" DIAMETER TANK)
98-03292-02	LOW FUEL SENSOR (17.6" RECTANGULAR TANK)

FUEL SENSOR INSTALLATION PROCEDURE

CAUTION

- 1.0 ON NEW INSTALATIONS, THE FOCUS TUBE SHOULD BE INSERTED INTO TANK BEFORE MOUNTING TANK. FUEL TANK MAY BE MOUNTED OR NOT FOR THE REST OF THIS PROCEDURE. WHEN MOUNTING THE TANK, IT SHOULD BE MOUNTED WITH THE SENSOR FLANGE LEVEL AT THE TOP TO WITHIN A HALF BUBBLE OF LEVEL USING A 24 INCH LEVEL (SEE BELOW). THE TRAILER SHOULD BE LEVEL DURING THIS PROCEDURE.

NOTE: DO NOT USE FILL TUBE AS A GUIDE. THE SENSOR FLANGE MAY NOT BE ALIGNED TO THE FILL TUBE.



LEVEL



HALF BUBBLE

- 2.0 REMOVE THE EXISTING CAP AND GASKET ON THE FUEL TANK AND INSTALL NEW GASKET, FOCUS TUBE, GASKET AND SENSOR USING THE STAINLESS STEEL WASHERS AND BOLTS PROVIDED. BOLT TORQUE IS 15 IN-LBS, NOT TO EXCEED 18-IN-LBS. 20 IN-LBS WILL CAUSE DAMAGE TO THE SENSOR.

CAUTION

SENSOR GASKET THRU HOLES ARE NOT SYMMETRICAL. THERE IS A INDEXING HOLE AND DIMPLE ON THE GASKET THAT AID IN THE ALIGNMENT OF THE GASKET AND SENSOR. THE INDEXING THRU HOLE ALIGNS WITH WITH THE SENSOR WIRES AND THE DIMPLE SHOULD FACE AWAY FROM THE SENSOR TOWARDS THE TANK MOUNTING FLANGE. SEE SENSOR GASKET ORIENTATION VIEW ON SHEET 2.

KEEP FOREIGN MATERIAL OFF OF THE FACE OF THE SENSOR THAT IS PLACED INSIDE OF THE TANK FLANGE.

- 3.0 CONNECT THE CABLE (ITEM 4) TO THE FUEL LEVEL SENSOR (ITEM 1). ROUTE THE CABLE FROM THE FUEL LEVEL SENSOR TO THE ENGINE HARNESS CONNECTION (LOCATED BEHIND THE CONTROL BOX) ON THE UNIT. FUEL LINES TO BE ROUTED SEPARATELY.

WITHOUT CUTTING INTERIOR FOIL, STRIP OUTER JACKET ON CABLE ABOUT 6". CAREFULLY TRIM OFF FOIL AND BARE CONDUCTOR LEAVING ABOUT 0.25" EXPOSED. THEN USING SOLDER SLEEVE TERMINAL (ITEM 30) ATTACH GROUND WIRE(ITEM 35) TO EXPOSED FOIL AND BARE CONDUCTOR WITH HEAT GUN. APPLY HEAT UNTIL SOLDER RING INSIDE SLEEVE MELTS AND FUSES WIRE, BARE CONDUCTOR AND SHIELD.

SLIDE WIRE SEALS (ITEM 46 PURPLE) ONTO CABLE WIRES AND INSTALL MALE TERMINALS (ITEM 49) ONTO THE WIRES. INSERT THE RED WIRE INTO CAVITY A, BLACK WIRE INTO CAVITY B AND THE WHITE WIRE INTO CAVITY C OF THE CONNECTOR (ITEM 42).

LOCATE HARNESS WIRES FLSA, FLSB AND FLSC. SLIDE THE WIRE SEALS (ITEM 45 GREEN, OR PURPLE ON VECTOR OR APX) ONTO THE THREE WIRES AND INSTALL THE FEMALE TERMINALS (ITEM 47) ONTO FSLB AND FLSC. INSERT FLSB INTO CAVITY B AND FLSC INTO CAVITY C OF OF CONNECTOR (ITEM 40).

ADVANCE MICROPROCESSOR:
TAKE WIRE FLSA AND CUT 6" OFF END AND SET 6" PIECE ASIDE. PASS END STILL CONNECTED TO THE ENGINE HARNESS THROUGH THE CAVITY OF FUSE HOLDER (ITEM 55) AND INSTALL TERMINAL (ITEM 65). THEN PULL WIRE BACK TO SEAT TERMINAL IN FUSE HOLDER.

SLIP WIRE SEAL (ITEM 45 GREEN, OR PURPLE ON VECTOR) ONTO 6" PIECE OF WIRE, INSTALL FEMALE TERMINAL (ITEM 47) AND INSERT INTO CAVITY A OF CONNECTOR (ITEM 40). PASS THE OPPOSITE END THROUGH THE CAVITY OF FUSE HOLDER (ITEM 55) AND INSTALL TERMINAL (ITEM 65). THEN PULL WIRE BACK TO SEAT TERMINAL IN FUSE HOLDER.

INSTALL FUSE (ITEM 60) AND FUSE HOLDER CAP (ITEM 56)

ATTACH THE SHIELD GROUND RING TERMINAL (ITEM 35) TO THE GROUND TERMINAL JUST BELOW ENGINE OR UNDER THE CONTROL BOX.

APX MICROPROCESSOR:
INSTALL 5A FUSE (ITEM 59) IN POWER CONTROL MODULE (PCM) SLOT F8 (FLS PWR).

- 4.0 FUEL SENSOR SETTINGS:
ADVANCE MICROPROCESSOR:
FUEL LEVEL SENSOR MUST BE ENABLED IN THE MICRO CONFIGURATION LIST. (SEE SERVICE MANUAL). SELECT 0.25V - 4.75V SENSOR. FOR ALARM ONLY, LEAVE FUEL TANK SIZE "OFF". FOR LOW FUEL SHUTDOWN, SELECT TANK SIZE (IF ACTUAL TANK SIZE IS NOT LISTED, CHOOSE CLOSEST VALUE). TURN SENSOR ON IN THE DATA RECORDER EITHER VIA LAPTOP OR CONFIGURATION CARD. THE FUEL SENSOR SHOULD BE SET TO SNAPSHOT IN THE DATA LOGGER.

APX MICROPROCESSOR:
FUEL LEVEL SENSOR MUST BE ENABLED IN THE MICRO CONFIGURATION LIST. (SEE SERVICE MANUAL). FOR ALARM ONLY, LEAVE LOW FUEL TO "ALARM ONLY". FOR LOW FUEL SHUTDOWN, SELECT "UNIT SHUTDOWN". TURN SENSOR ON IN THE DATA RECORDER EITHER VIA LAPTOP OR CONFIGURATION CARD. THE FUEL SENSOR SHOULD BE SET TO SNAPSHOT IN THE DATA LOGGER.

CAUTION

DO NOT TY-WRAP THE FUEL LEVEL SENSOR HARNESS TO THE FUEL LINES. FUEL LINES TO BE ROUTED SEPARATELY.

MAKE CERTAIN TO RESPECT FUEL SENSOR POLARITY. MARK THE WIRES TO MAKE SURE THE BLACK WIRE FROM THE FUEL LEVEL SENSOR IS CONNECTED TO THE WIRE LABELED "FLSB". MAKE SURE THE YELLOW WIRE IS CONNECTED TO THE WIRE LABELED "FLSC". MAKE SURE THE RED WIRE FROM THE FUEL SENSOR IS CONNECTED TO THE WIRE LABELED "FLSA". REVERSAL OF THESE WIRES WILL CAUSE INCORRECT READINGS OF THE FUEL LEVEL AND POSSIBLE DAMAGE TO THE SENSOR.

ADDITIONAL NOTES

THERE IS A 90-240 SECOND DELAY IN THE SENSOR'S RESPONSE TO THE FUEL LEVEL TO AVOID THE EFFECTS OF FUEL SLOSHING. WHEN APPROXIMATELY 15% OF THE FUEL IS REMAINING, THE APPROPRIATE LOW FUEL ALARM WILL ACTIVATE ON THE UNIT MESSAGE CENTER. WHEN THE TANK IS LESS 10% FULL, THE ALARM AND SHUT DOWN WILL ACTIVATE IF SO CONFIGURED.

BE SURE TO TURN THE SENSOR ON TO SNAPSHOT LOGGING USING REEFER MANAGER'S DATA RECORDER SETUP.

ADVANCE MICROPROCESSOR SETUP - CONFIGURATIONS	
FUEL SENSOR	0.25 - 4.75 VDC
FUEL TANK SIZE	OFF (ALARM ONLY) 30,50,75,100,120 GAL. (ALARM & SHUTDOWN)
ADVANCE DATA RECORDER SETUP - SENSORS	
FUEL LEVEL SENSOR	SNAPSHOT LOGGING
APX MICROPROCESSOR SETUP - CONFIGURATIONS	
FUEL SENSOR	YES
LOW FUEL	ALARM ONLY UNIT SHUTDOWN
APX DATA RECORDER SETUP - SENSORS	
FUEL LEVEL SENSOR	SNAPSHOT LOGGING

SYM	REVISION RECORD	ENGRG.	DATE	APPLICATION ENGRG.	DATE	REVISED BY	DATE
F	UPDATED NOTES 3.0, 4.0 & SETUP CHART FOR APX. ADDED ADVANCE ONLY TO NOTE 3 FOR FUSE HOLDER & ADDED NOTE FOR APX FUSE. ADDED SHEET 3 PER ECN 72N0220P13.					ZMG	11 MAR 2013
E	ADDED APX TO NOTES 3.0, 4.0 AND SETUP CHART. REVISED FLS WIRE CALLOUTS IN NOTES 3.0 AND 4.0 PER ECN 72N0267P11.					ZMG	06 SEP 2011

SUPERSEDES 98-03238

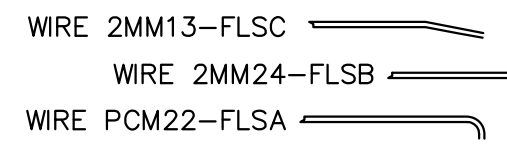
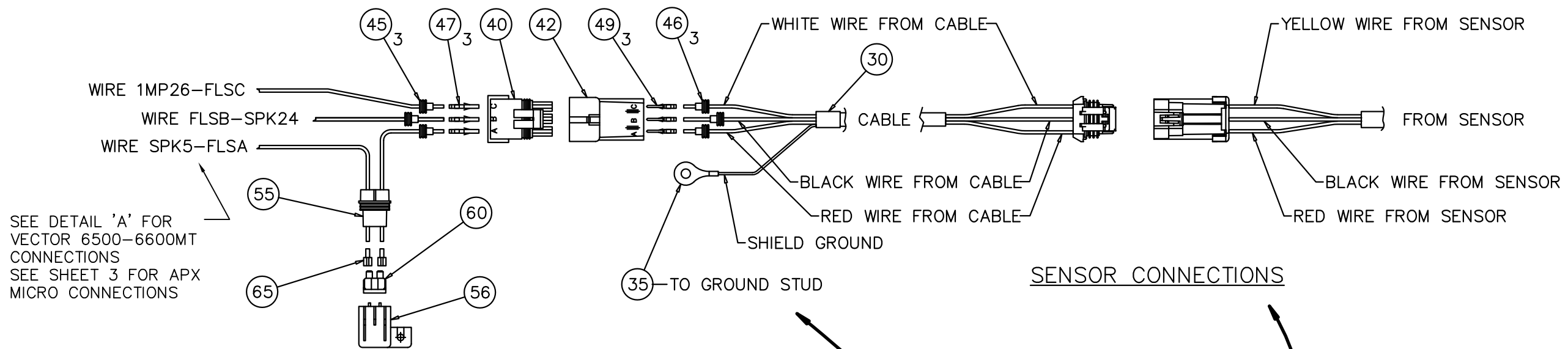
TITLE

INSTALLATION INSTRUCTIONS
FUEL LEVEL SENSOR OPTION

SHEET INDEX	REV	F	F	F
	SHT	1	2	3

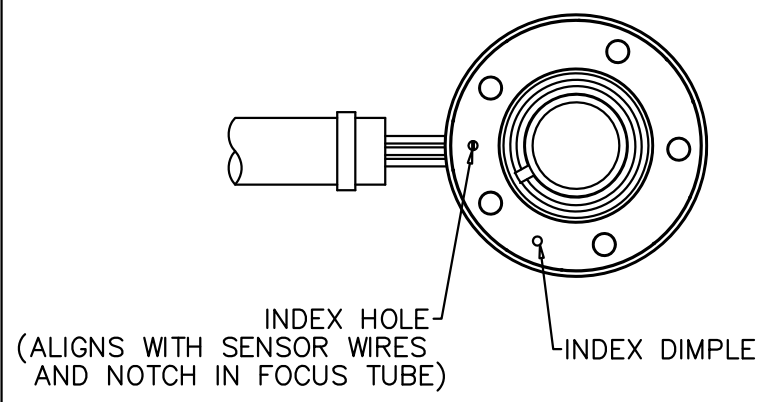
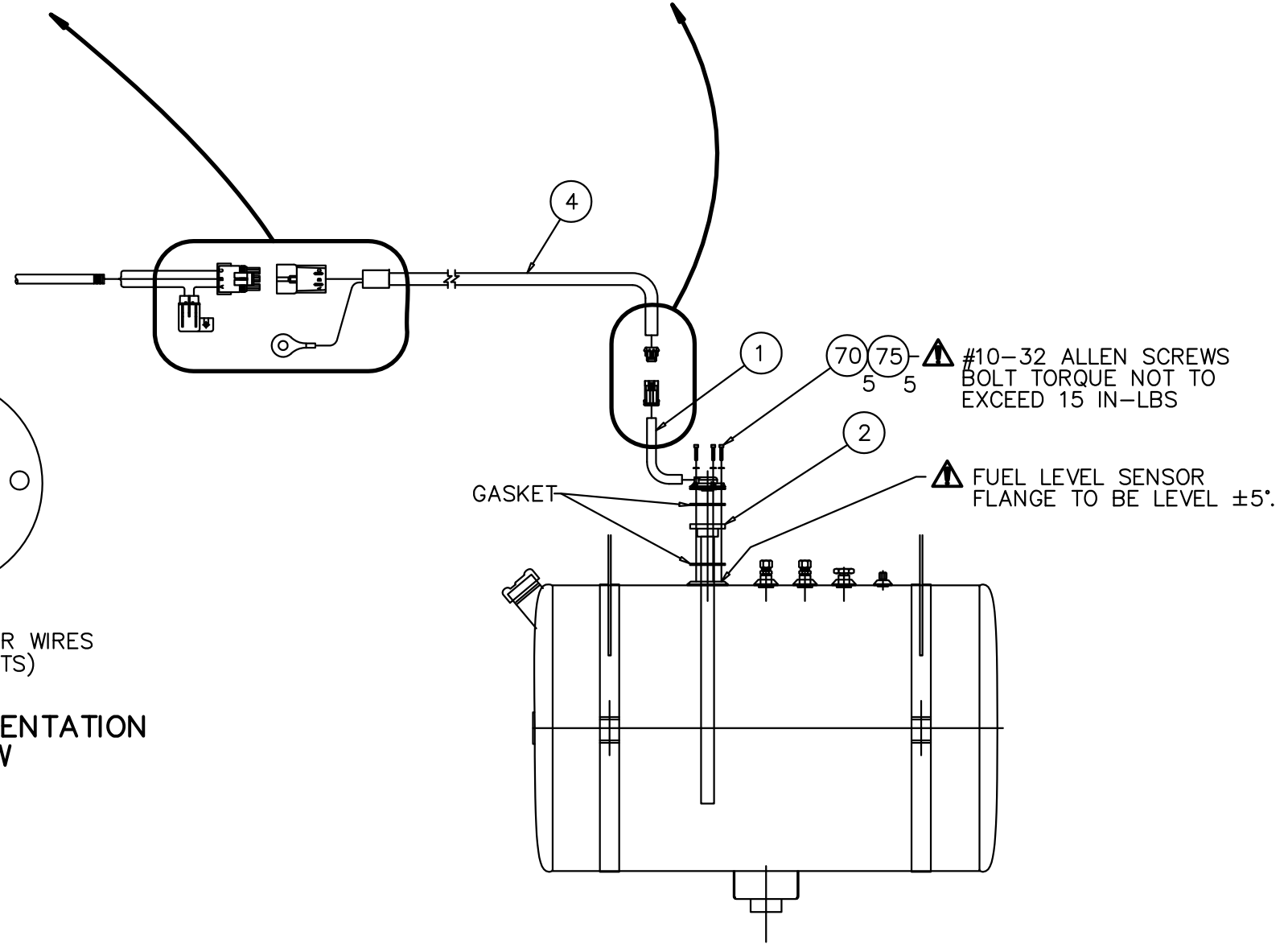
DRAWING NO. 98-03292
SHT 1 OF 2

SEE SEPARATE PARTS LIST

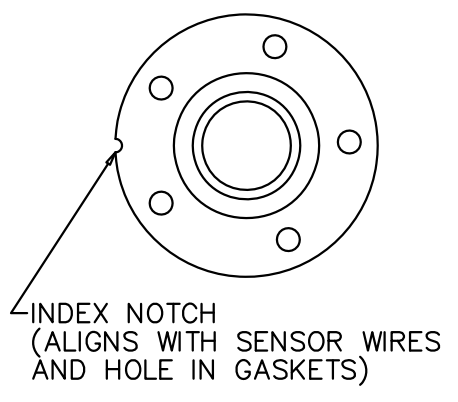


ADVANCE CABLE CONNECTIONS

SENSOR CONNECTIONS



SENSOR GASKET ORIENTATION
SCALE: FULL



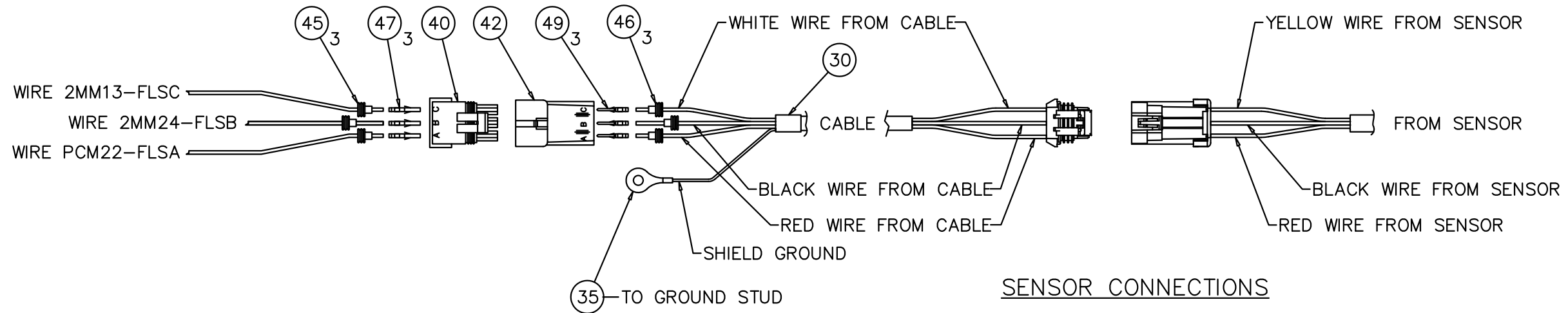
FOCUS TUBE ORIENTATION
TOP VIEW
SCALE: FULL

F	REMOVED APX FROM CABLE CONNECTIONS AND REVISED NOTE TO SEE SHEET 3 FOR APX MICRO CONNECTIONS PER ECN 72N00220P13					ZMG	11 MAR 2013
E	ADDED APX MICRO CONNECTIONS PER ECN 72N00267P11					ZMG	06 SEP 2011
C	ADDED VECTOR 6500-6600MT CONNECTIONS PER ECN 72N045GP09					RS	15 JAN 2010
B	REPLACED CALLOUT FOCUS TUBE WITH CALLOUT IT.2 PER ECN 72N232GP09.					ZMG	13 AUG 2009
A	ADDED CALLOUTS IT.70 AND 75. ADDED FOCUS TUBE AND UPDATED CABLE AND SENSOR CONNECTIONS PER ECN72N210GP09.					ZMG	26 MAR 2009
SYM	REVISION RECORD	ENGRG.	DATE	APPLICATION ENGRG.	DATE	REVISED BY	DATE

SUPERSEDES 98-03238

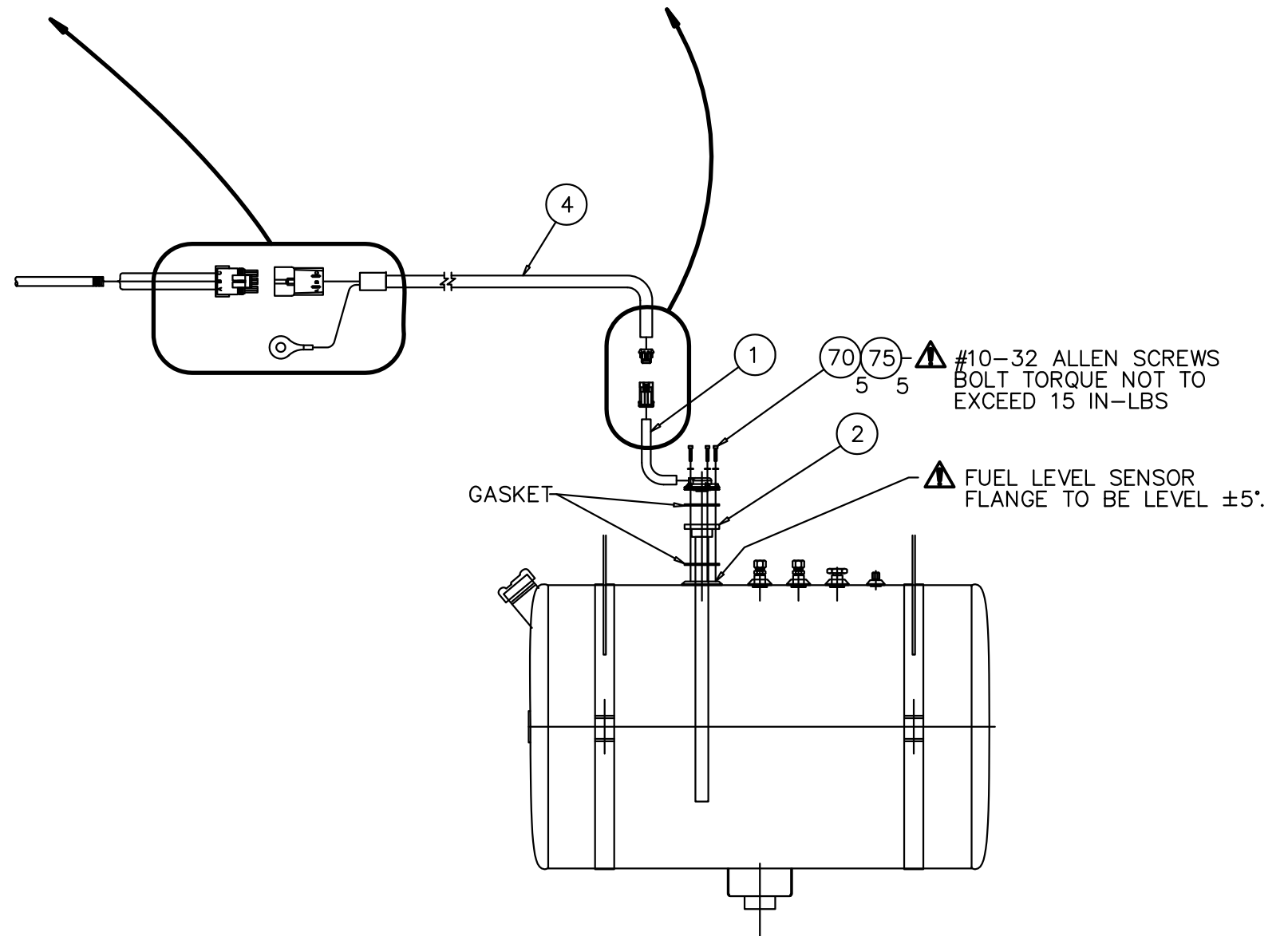
TITLE: INSTALLATION INSTRUCTIONS FUEL LEVEL SENSOR OPTION
DRAWING NO. 98-03292 SHT 2 OF 3
REV F

01-JUN-2009 : 10:17:19 : etct03x



APX CABLE CONNECTIONS

SENSOR CONNECTIONS



F	NEW SHEET PER ECN 72N00220P13					ZMG	11 MAR 2013
SYM	REVISION RECORD	ENGRG.	DATE	APPLICATION ENGRG.	DATE	REVISED BY	DATE

SUPERSEDES 98-03238

TITLE INSTALLATION INSTRUCTIONS FUEL LEVEL SENSOR OPTION

DRAWING NO. 98-03292
SHT 3 OF 3
REV F

01-JUN-2009 : 10:17:19 : etct03x