

SPARTAN  MOTORS
CHASSIS, INC.

CSB 03-230-001

1 of 7
April, 2003

CAMPAIGN SERVICE BULLETIN

CAMPAIGN EXPIRATION DATE: APRIL 30, 2004

SUBJECT: Transmission Heat Exchanger Retrofit

APPLIES TO: Sales Order Numbers:
42077, 42222, 43244, 43347, 43540, 43811, 42779, 42978

CONDITION: Limited Transmission Operation When Sump Oil Temperature is Below 20° F.

PART / SERVICE INFORMATION: Labor Time: 5.0 Hours

Part Information:

<u>QTY</u>	<u>Part Number</u>	<u>Description</u>
1	S-1565-001	Kit- Heat Exchanger

Kit # S-1565-001 Contains:

<u>QTY</u>	<u>Part Number</u>	<u>Description</u>
1	1855-FF2-001	Heat Exchanger
1	0371-TT1-001	Brkt- Heat Exchanger
2	08130175FH8B	Bolt- 1/2 -13 x 1.75" FL HD
2	0813FLN8B	Nut- 1/2 -13 FL HD
3	0716-MM5-J10	Fitting - bushing 12-8
2	0716-MM5-VV05	Fitting - 90 degree barb 8-8
1	0716-MM5-QQ05	Fitting - barb 10-8 (5/8" barb)
1	0716-MM5-U04	Fitting - 45 degree male-female 8-8
1	3942939	Fitting - 90 degree barb
1	3940116	Fitting - bypass plug
8.42'	0661-FF2-003	Hose - 5/8 silicone
1	0722-MM5-QQQ01	Fitting - male conn #16 O-ring
1	0722-MM5-RRR01	Fitting - male 90 degree conn #16 O-ring
1	1686-FF2-02050	Hose - 16HP / BLU - 20.5" ST-90
1	1687-FF2-07300	Hose - 16HP / BLU - 73.0" ST-ST
1	1686-FF2-01500	Hose -16HP/BLU-15.0" ST-90
5'	0636-GG5-J09	Loom - 1.0"
4	0182-BB1-001	Clamp - 1.0"
1	CSB03-230-001	Document- Bulletin Instructions

Service Bulletins are intended for use by Professional Technicians only. They are written to guide Professional Technicians in performing service to vehicles of product specific nature in conjunction with industry standards. Professional Technicians are appropriately trained on industry standards and have the tools and equipment to perform the Service Procedures safely and properly.

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PLEASE READ THE ENTIRE BULLETIN BEFORE PROCEEDING WITH ANY WORK.

For specific transmission operation, fluid properties, and maintenance information, refer to the Allison Transmission Operator's Manual included with your vehicle.
If the manual is not available please contact Spartan Motors.

STEP-BY-STEP INSTRUCTIONS:

A. PREP

1. Park vehicle on level surface. Place transmission selector in 'Neutral' position. Chock wheels, and allow engine to thoroughly cool before beginning any work.
2. Disconnect and LABEL the positive and negative battery cables on all chassis batteries.
3. Observe industry safety standards and secure vehicle to allow for installation of transmission heat exchanger.
4. Follow the cab tilt instructions in the vehicle owner's manual, or on the instruction plate located near the storage area of the tilt control mechanism/pendant; tilt/raise the cab.

NOTE: If for any reason the cab tilt instructions are not available, contact Spartan Motors.

NOTE: Allow sufficient clearance in front of vehicle when cab is fully tilted.

NOTE: When cab is fully tilted, verify safety mechanism is engaged on rod.

5. Drain coolant mixture from the system into an approved container.

NOTE: The mixture may be reused to fill the system if kept clean and it does not require replacement as regular maintenance interval.

For specific engine operation, fluid properties, and maintenance information, refer to the engine manufacturer's operating and maintenance manual included with your vehicle.
If the manual is not available please contact Spartan Motors.

6. Remove alternator from engine to gain access to the ports behind the alternator. Retain alternator/hardware for reinstallation.

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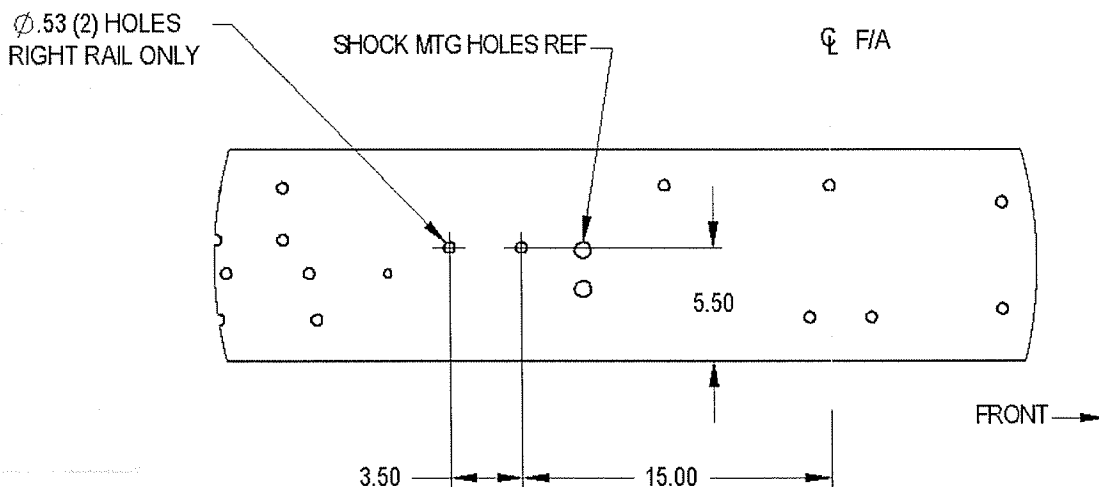
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B. SUB-ASSEMBLE HEAT EXCHANGER; INSTALL BRACKET TO RAIL.

7. While coolant is draining, install fittings into the heat exchanger.

NOTE: It is important to note fitting orientation to allow for appropriate hose routing. Fittings must be directed rearward when exchanger is in the installed position.

8. Locate heat exchanger bracket to the rail using the drill pattern shown in FIG. 3-1, mark and drill the (2) bracket mounting holes as shown.



Drill Pattern for Heat Exchanger Bracket

FIG. 3-1

9. Refer to FIG. 4-1. Install bracket to rail inserting bolts from the inside of the frame rail with nuts on the outside of the frame rail. Torque nuts to 103 +/- 2 lbs. ft.

The pictures and associated notes in this bulletin are intended to show completed installation and / or the general area that is being referenced. Certain parts may be hidden from view.

C. INSTALL HEAT EXCHANGER; MAKE CONNECTIONS

10. Install heat exchanger bracket to rail.. Torque nuts to 16 +/- 1 lbs. ft.
11. Install fittings to block. Refer to FIG. 5-2 and FIG. 6-1.

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