Bracketry Systems, Inc. 8781 Harmon Rd Ft Worth, TX 76177

Warranty Registration

Product Information

BSI Kit _____

Date Installed_____

Vehicle Manufacturer_____

Year of Vehicle_____

Vehicle Serial Number – VIN# (Last 8) _____ (Must have)

Unit Serial Number_____ (Not required)

Mileage at time of install_____

Installer Information

Company Name _____

Address_____

City_____State_____ Zip Code_____+_

Phone_____

Email:_____

Sold to (Not required)

Company Name_____

Address_____

City_____ State _____Zip Code_____

In Service Date _____

Please complete and email or fax to:

Email kristi@bracketrysystems.com

Fax: 800-741-4130

Phone: 817-232-8199

2010-08 Freightliner Sprinter

40027C

MERCEDES BENZ 3.0 LITER ENGINE

TYPE B

Uses TM-15/16, 119mm Poly Groove Rear Port Compressor

PARTS LIST

1	8m-1.25 x 30 Flange Bolt Grd 10.9	4	10m Flat Washer
2	8m-1.25 x 55 Flange Bolt Grd 10.9	4	10m Lock Washer
1	8m-1.25 x 60 Flange Bolt Grd 10.9	1	30mbb406 Bearing Bushing
1	8m-1.25 x 65 Allen Head Bolt Grd 10.9	1	65mbsip Backside Idler Pulley
1	8m-1.25 x 90 Flange Bolt Grd 10.9	1	68021256AA Tensioner
4	10m-1.25 x 35 Bolt JIS Head	1	K060570 Belt
1	10m-1.25 x 40 Flange Bolt Grd 10.9	1	40027C-1 Compressor Mount

FINAL 6/7/10 RD

Brackets in kit may vary in physical appearance from those in photographs. All kits designed by BSI are designed on an engine and in most cases will fit your application without any modification. However, in some cases, your application may have slight differences in the hoses, wire harnesses , turbo tubes, etc. It is the responsibility of the installer to modify, manuever or change position of such items that may be in the way during installation. BSI will not be responsible to make a change to kits for modifications such as these.

All photographs in this installation guide are representative to show installation location only. The physical appearance of your vehicle may vary. In some cases, the bracket design changed slightly after the photo's were taken and the vehicle was no longer available for new photo's. If the actual part looks different from the photo, follow the written instructions for proper installation. BSI will not be responsible to make changes to artwork in such cases.

2010-08 Freightliner Sprinter

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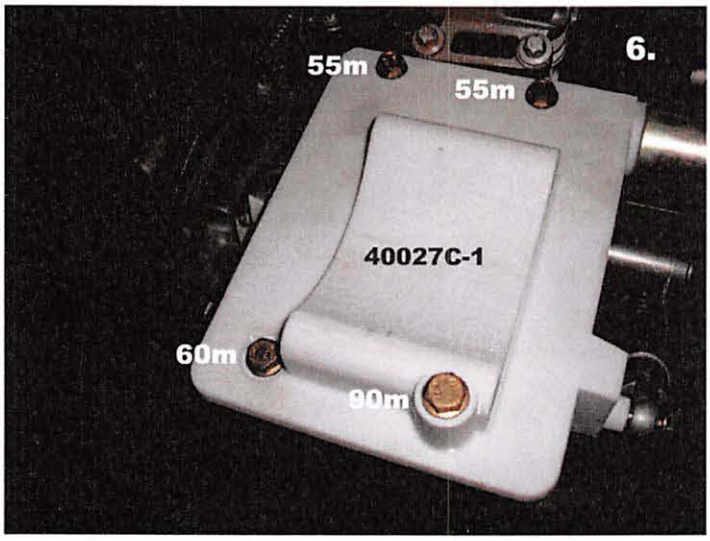
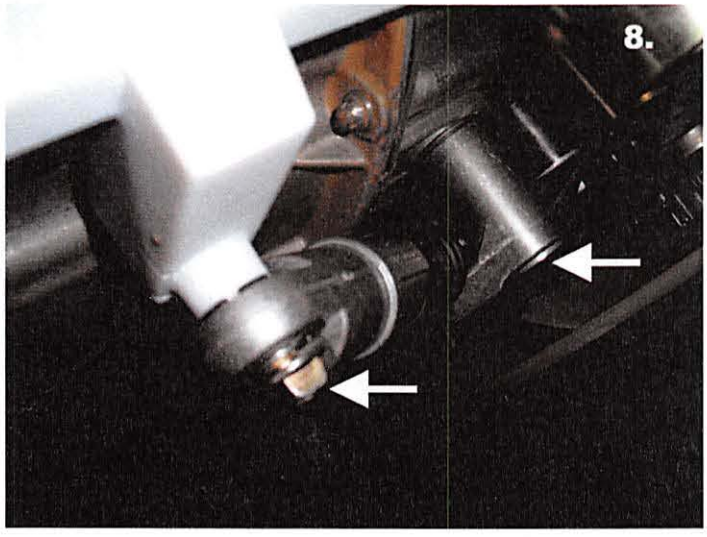
MERCEDES BENZ 3.0 LITER ENGINE

TYPE B

Uses TM-15/16, 119mm Poly Groove Rear Port Compressor

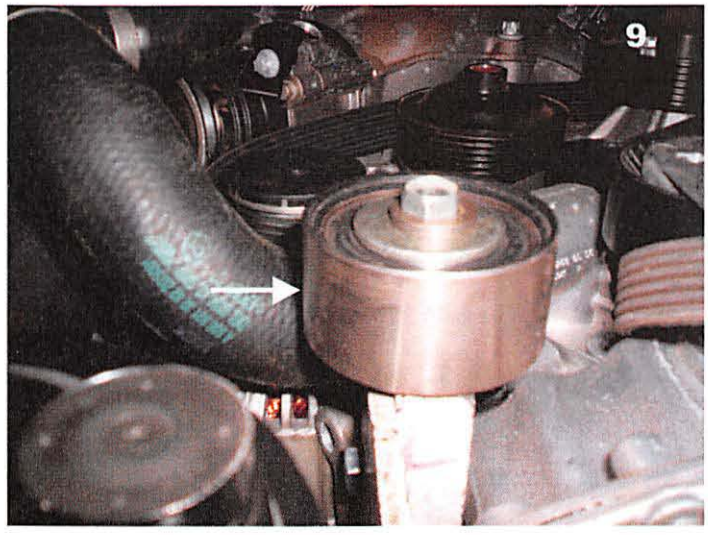
INSTALLATION INSTRUCTIONS



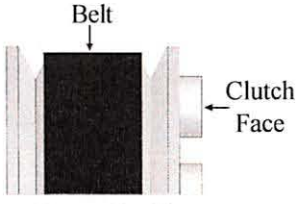


1. Disconnect batteries.
2. Remove OE airbox and inlet tube.
3. Detach upper transmission cooler line from radiator.
4. Remove fan and fan shroud.
5. Remove and discard fan pulley belt.
6. Install 40027C-1 compressor mount using two (2) 8m-1.25 x 55 flange bolts Grd 10.9 in upper mount holes. Use one (1) 8m-1.25 x 60 flange bolt Grd 10.9 in lower rear mount hole. Use one (1) 8m-1.25 x 90 flange bolt Grd 10.9 in lower front mount hole. **NOTE:** Run bolts in evenly; do not overtighten. **IMPORTANT:** Make sure bosses of compressor mount are mated with bosses of oil pan.
7. Install compressor using four (4) 10m-1.25 x 35 JIS W/FW-LW.
8. Install 68021256AA tensioner using one (1) 8m-1.25 x 30 flange bolt Grd 10.9 at lower hole and one (1) 8m-1.25 x 65 allen head Grd 10.9 at upper hole.

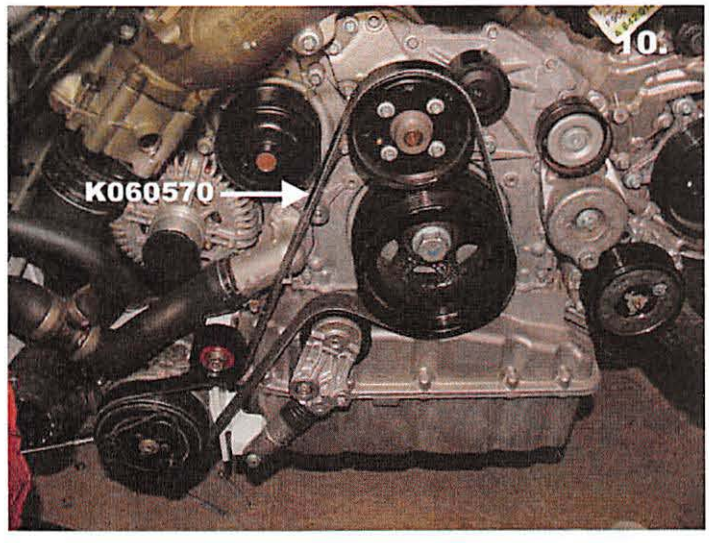
9. Install one (1) 65mbsip backside idler pulley and one (1) 30mbb406 bearing bushing to compressor mount using one (1) 10m-1.25 x 40 flange bolt Grd 10.9.



10. Install K060570 belt. Belt runs in center six (6) grooves of compressor clutch.



Center Six (6) Grooves



11. Reinstall fan, fan shroud, inlet tube and airbox.

12. Reattach transmission cooler line.

13. Check clearances at all pinch points and other areas such as belts, hoses, wire harnesses, fan and shroud, compressor clutch, etc. before starting engine.

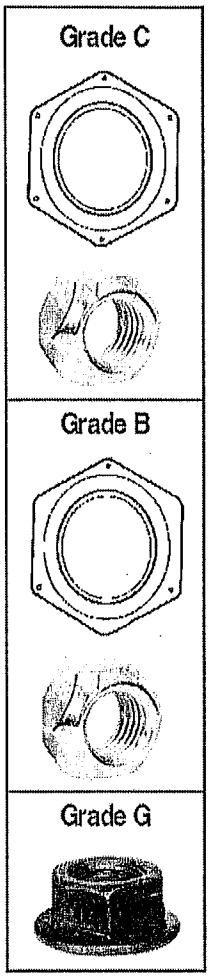
14. Connect batteries.

FASTENER TORQUE CHARTS

GUIDE FOR PREVAILING-TORQUE LOCK NUT ASSEMBLY TORQUES (CAD AND WAX, GRADE B, C, AND GRADE G FLANGE NUTS) LOCK NUT STANDARDS FROM IFI-100 REQUIREMENTS

Torque-Tension Requirements

Size Threads Per Inch	GRADE B			GRADE C			GRADE G		
	Clamp Load (lb)	Assembly Torque Max.	Assembly Torque Min.	Clamp Load (lb)	Assembly Torque Max.	Assembly Torque Min.	Clamp Load (lb)	Assembly Torque Max.	Assembly Torque Min.
1/4-20	2,000	85"*	60"*	2,650	125"*	85"*	2,650	150"*	100"*
1/4-28	2,300	90"*	65"*	3,250	125"*	85"*	3,250	160"*	105"*
5/16-18	3,350	150"*	110"*	4,700	190"*	130"*	4,700	240"*	155"*
5/16-24	3,700	160"*	120"*	5,200	200"*	140"*	5,200	230"*	155"*
3/8-16	4,950	20	14.5	6,950	28	20	6,950	32	21
3/8-24	5,600	22	16	7,900	29	21	7,900	33	22
7/16-14	6,800	32	23	9,600	43	31	9,600	51	34
7/16-20	7,550	34	24	10,700	43	31	10,700	60	40
1/2-13	9,050	50	37	12,800	62.5	45	12,800	85	55
1/2-20	10,200	52.5	37.5	14,440	70	50	14,440	89	59
9/16-12	11,600	70	50	16,400	95	70	16,400	120	80
9/16-18	13,000	77.5	57.5	18,300	95	70	18,300	132	88
5/8-11	14,500	95	70	20,300	122.5	90	20,300	143	95
5/8-18	16,300	97.5	72.5	23,000	125	90	23,000	175	115
3/4-10	21,300	165	125	30,100	210	155	30,100	240	160
3/4-16	23,800	165	120	33,600	210	155	33,600	270	170
7/8-9	29,500	250	185	41,600	312.5	225	41,600	360	260
7/8-14	32,400	270	200	45,800	312.5	225	45,800	402	247
1-8	39,700	375	275	54,600	462.5	360	54,600	530	410
1-12	42,300	395	290	59,750	490	360	59,750	—	—
1-14	43,000	400	300	61,100	500	362.5	61,100	645	398
1-1/8-7	42,100	404	294	69,000	585	454	69,000	—	—
1-1/8-12	47,500	437	327	76,800	622	453	76,800	—	—
1-1/4-7	53,500	513	375	87,000	736	573	87,000	—	—
1-1/4-12	59,700	549	412	96,600	782	570	96,600	—	—
1-3/8-6	63,800	612	445	104,000	880	685	104,000	—	—
1-3/8-12	72,900	670	503	118,000	955	696	118,000	—	—
1-1/2-6	77,600	745	545	127,000	1,075	837	127,000	—	—
1-1/2-12	87,700	807	605	142,000	1,150	837	142,000	—	—



- Clamp loads for the Grade B lock nuts equal 75% of the bolt proof loads specified for SAEJ-429 Grade 5, and ASTM A-449 bolts
  Clamp loads for Grade C lock nuts equal 75% of the bolt proof loads specified for SAEJ-429 Grade 8, and ASTM A-354 Grade BD bolts
- IFI-100 does not govern lock nuts above 1". The values shown in the chart are to be used as a mid-range guideline.

** Torque values for 1/4" and 5/16" sizes are in inch lb. All other torque values are in foot lb.

METRIC TORQUE CHART FOR HEX HEAD CAP SCREWS

Size	Class	Newton Meters Zinc Plated	Newton Meters Unplated	Foot Pounds (approx.) Zinc Plated	Foot Pounds (approx.) Unplated	Class
M4 x .70 Pitch	8.8	3.1	2.2	2.30	1.65	
M5 x .80 Pitch	8.8	6.1	5.5	4.58	4.13	
M6 x 1.00 Pitch	8.8	10.4	9.5	7.80	7.13	
M7 x 1.00 Pitch	8.8	17.0	15.5	12.75	11.63	
M8 x 1.25 Pitch	8.8	25.0	23.0	18.75	17.25	
M8 x 1.00 Pitch	8.8	27.0	24.5	20.25	18.38	
M10 x 1.50 Pitch	8.8	51.0	46.0	38.25	34.50	
M10 x 1.00 Pitch	8.8	57.0	52.0	42.75	39.00	
M10 x 1.25 Pitch	8.8	54.0	49.0	40.50	36.75	
M12 x 1.75 Pitch	8.8	87.0	79.0	65.25	59.25	
M12 x 1.25 Pitch	8.8	96.0	87.0	72.00	65.25	
M12 x 1.50 Pitch	8.8	92.0	83.0	69.00	62.25	
M14 x 2.00 Pitch	8.8	140.0	125.0	105.00	93.75	
M14 x 1.50 Pitch	8.8	150.0	135.0	112.50	101.25	
M16 x 2.00 Pitch	8.8	215.0	195.0	161.25	146.25	
M18 x 2.50 Pitch	8.8	300.0	280.0	225.00	210.00	
M20 x 2.50 Pitch	8.8	430.0	390.0	322.50	292.50	
M22 x 2.50 Pitch	8.8	580.0	530.0	435.00	397.50	
M24 x 3.00 Pitch	8.8	740.0	670.0	555.00	502.50	
M6 x 1.00 Pitch	10.9	15.5	14.0	11.63	10.50	
M8 x 1.25 Pitch	10.9	37.0	34.0	27.75	25.50	
M10 x 1.50 Pitch	10.9	75.0	68.0	56.25	51.00	
M12 x 1.75 Pitch	10.9	160.0	117.0	97.50	87.75	
M14 x 2.00 Pitch	10.9	205.0	185.0	153.75	138.75	
M16 x 2.00 Pitch	10.9	310.0	280.0	232.50	210.00	

TORQUE CHART FOR STAINLESS STEEL CAP SCREWS

Size	316 inch-lb	18/8 inch-lb
6-32	10.1	9.6
6-40	12.7	12.1
8-32	20.7	19.8
8-36	23.0	22.0
10-24	23.8	22.8
10-32	33.1	31.7
1/4-20	78.8	75.2
1/4-28	99.0	94.0
5/16-18	138.0	132.0
5/16-24	147.0	142.0
3/8-16	247.0	236.0
3/8-24	271.0	259.0
7/16-14	393.0	376.0
7/16-20	418.0	400.0
1/2-13	542.0	517.0
1/2-20	565.0	541.0
9/16-12	713.0	682.0
9/16-18	787.0	752.0
5/8-11	1,160.0	1,110.0
5/8-18	1,301.0	1,244.0
3/4-10	1,562.0	1,530.0
3/4-16	1,558.0	1,490.0
7/8-9	2,430.0	2,328.0
7/8-14	2,420.0	2,318.0
1"-8	3,595.0	3,440.0
1"-14	3,250.0	3,110.0