

PROPELLER SHAFT & DIFFERENTIAL CARRIER

SECTION **PD**

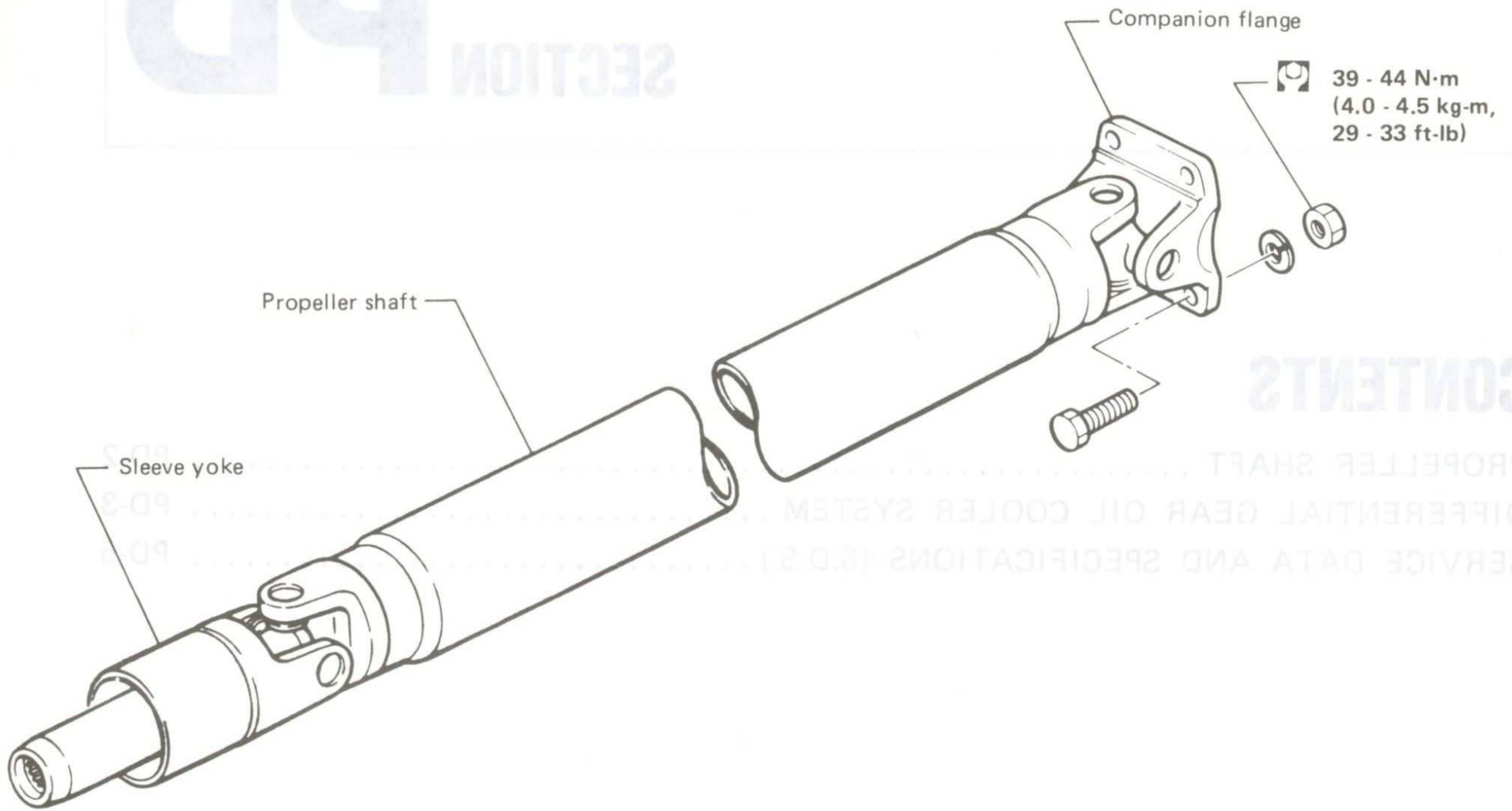
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PD

PROPELLER SHAFT

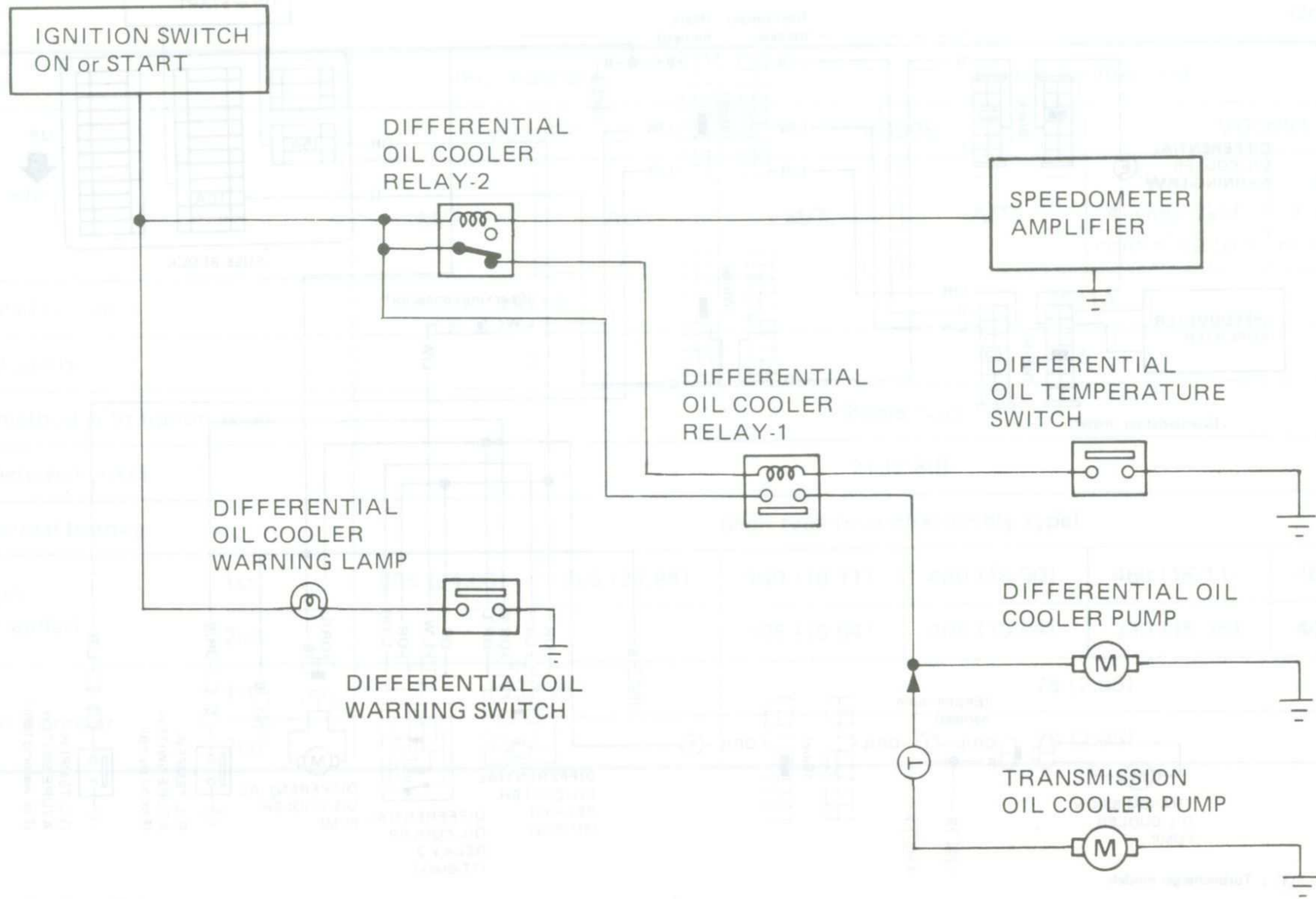
2S71A model



PD427

DIFFERENTIAL GEAR OIL COOLER SYSTEM

Schematic



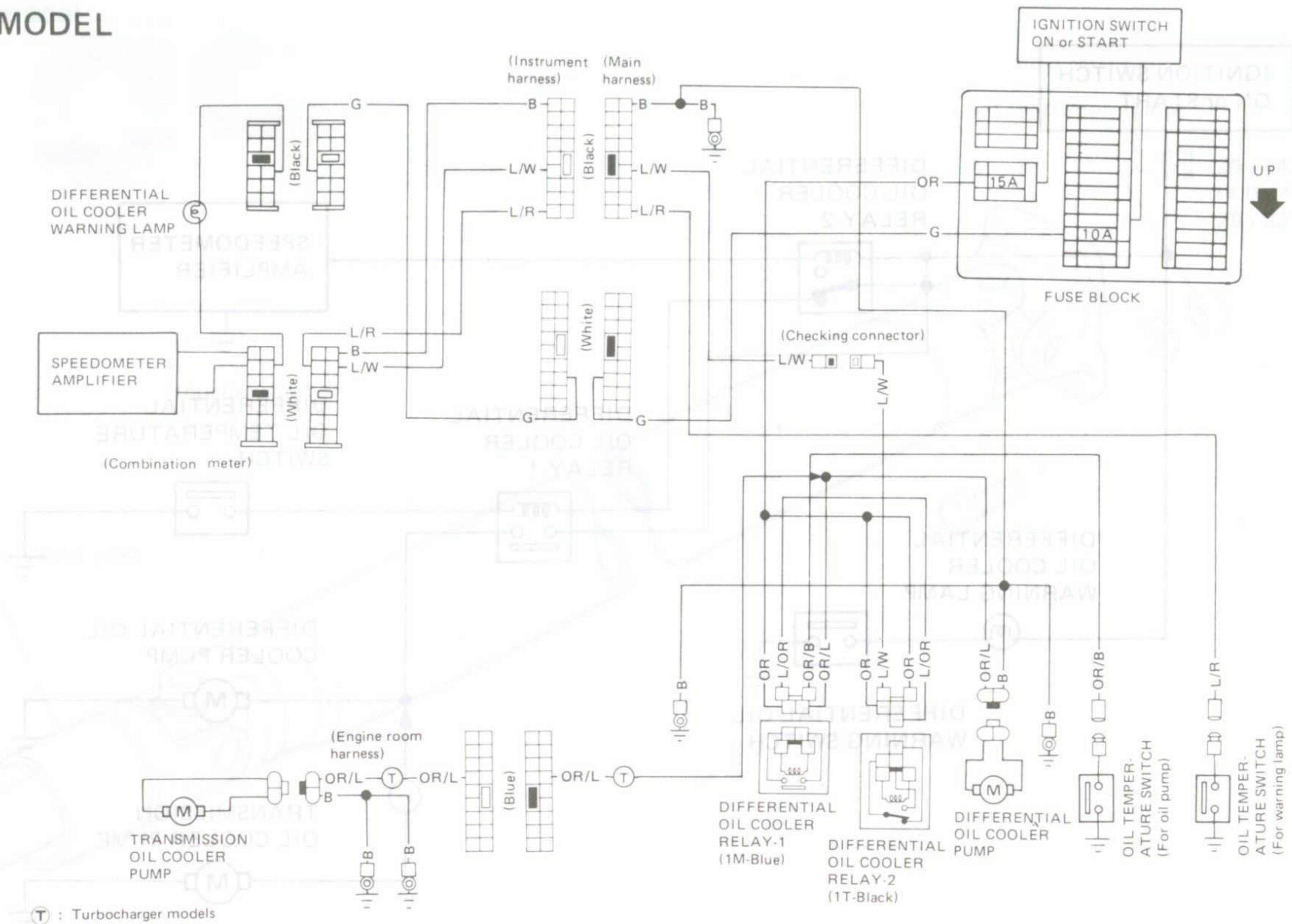
Ⓣ : Turbocharger models

SPD804

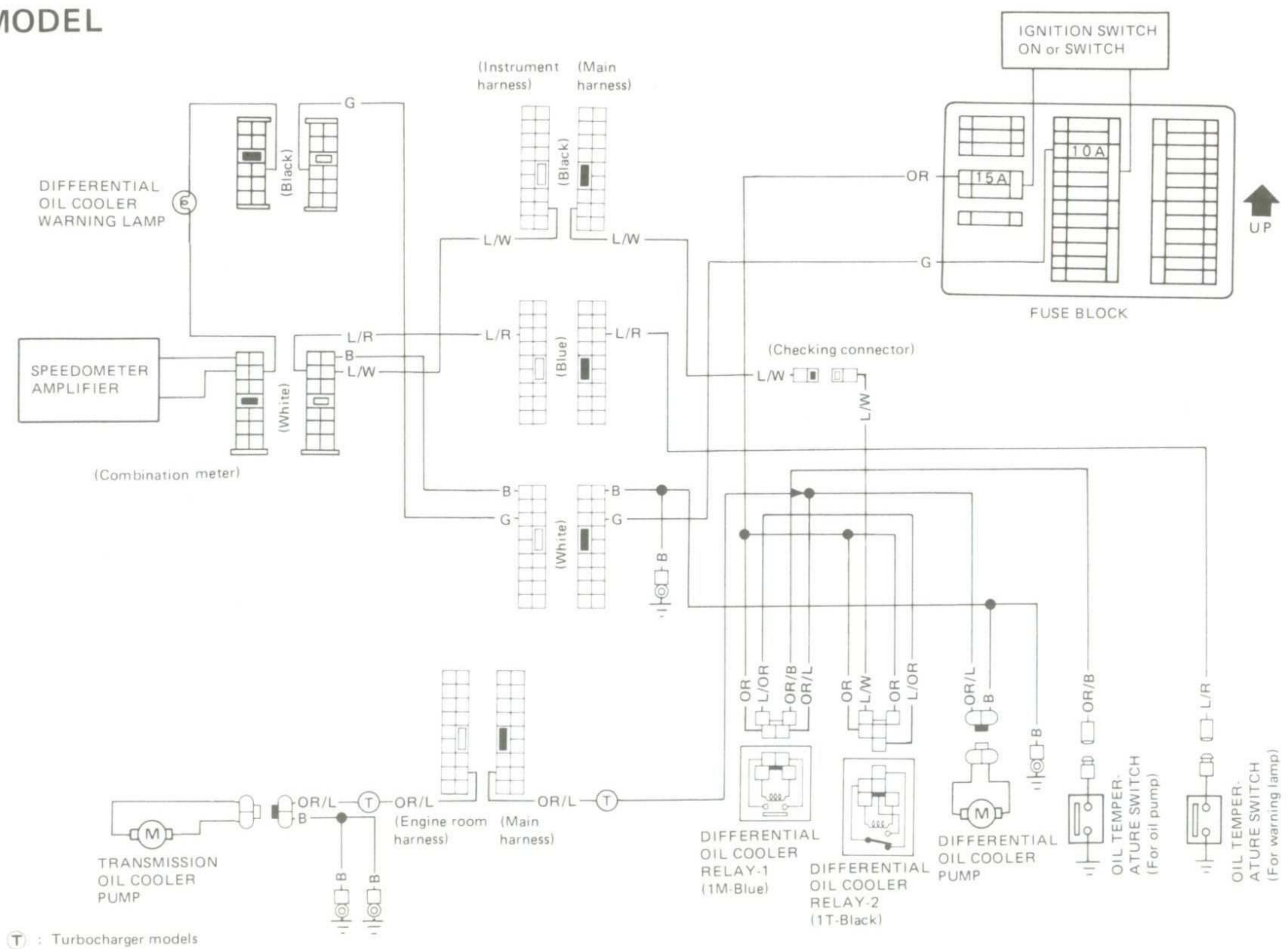
DIFFERENTIAL GEAR OIL COOLER SYSTEM

Wiring Diagram

L.H.D. MODEL



R.H.D. MODEL



SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Propeller Shaft

GENERAL SPECIFICATIONS

Unit: mm (in)

Destination		For Australia		Except for Australia			
		VG30ET		VG30E		VG30ET	
Applied model		M/T	A/T	M/T	A/T	With 4-wheel skid control system	Without 4-wheel skid control system
Propeller shaft model		2S71A		3S71A			
Number of joints		2		3			
Coupling method with transmission		Sleeve type					
Distance between yokes		71 (2.80)					
Type of journal bearing		Shell type (non-disassembly type)					
Shaft length (Spider to spider)	1st	865 (34.06)	885 (34.84)	460 (18.11)	480 (18.90)	460 (18.11)	460 (18.11)
	2nd	—		405 (15.94)	405 (15.94)	390 (15.35)	405 (15.94)
Shaft outer diameter	1st	75 (2.95)		75 (2.95)			
	2nd	—		75 (2.95)			

SERVICE DATA

Unit: mm (in)

Model	2S71A, 3S71A
Propeller shaft runout limit	0.6 (0.024)
Journal axial play	0 (0)

TIGHTENING TORQUE

Unit	N·m	kg-m	ft-lb
Propeller shaft to differential carrier	39 - 44	4.0 - 4.5	29 - 33
Propeller shaft 1st tube to 2nd tube	39 - 44	4.0 - 4.5	29 - 33
Center bearing locking nut	245 - 294	25 - 30	181 - 217
Center bearing bracket to body	25 - 39	2.6 - 4.0	19 - 29

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Final Drive

GENERAL SPECIFICATIONS

Destination	For Europe			For Middle East		Except for Europe and Middle East	
	VG30E	VG30ET	VG30ET*	VG30E	VG30ET	VG30E	VG30ET
Applied model	VG30E	VG30ET	VG30ET*	VG30E	VG30ET	VG30E	VG30ET
Final drive model	R200						
Number of pinions	2	4	4	2	4	2	4
Ring gear pitch diameter mm (in)	200 (7.87)						
Gear ratio	3.700	3.364	3.545	3.700	3.545	3.700	3.545
Number of teeth (Ring gear/Drive pinion)	37/10	37/11	39/11	37/10	39/11	37/10	39/11
Oil capacity (approx.) ℓ (Imp pt)	2.1 (3-3/4)			1.8 (3-1/8)		1.3 (2-1/4)	

*: For Germany, Holland, Switzerland and Austria

SERVICE DATA

Drive pinion bearing preload adjusting method	Adjusting spacer and washer
Pinion bearing preload (With front oil seal) N·m (kg·cm, in·lb)	1.13 - 1.72 (11.5 - 17.5, 10.0 - 15.2)
Pinion bearing preload (Without front oil seal) N·m (kg·cm, in·lb)	1.0 - 1.3 (10 - 13, 8.7 - 11.3)
Total preload N·m (kg·cm, in·lb)	1.23 - 2.30 (12.5 - 23.5, 10.9 - 20.4)
Side bearing adjusting method	Shim
Backlash	
Drive pinion to ring gear mm (in)	0.13 - 0.18 (0.0051 - 0.0071)
Side gear to pinion mate gear (Clearance between side gear to differential case) mm (in)	Less than 0.15 (0.0059)
Ring gear runout limit mm (in)	0.05 (0.0020)

Pinion height adjusting washer (R200)

Thickness mm (in)	Part No.
3.09 (0.1217)	38154-P6017
3.12 (0.1228)	38154-P6018
3.15 (0.1240)	38154-P6019
3.18 (0.1252)	38154-P6020
3.21 (0.1264)	38154-P6021
3.24 (0.1276)	38154-P6022
3.27 (0.1287)	38154-P6023
3.30 (0.1299)	38154-P6024
3.33 (0.1311)	38154-P6025
3.36 (0.1323)	38154-P6026
3.39 (0.1335)	38154-P6027
3.42 (0.1346)	38154-P6028
3.45 (0.1358)	38154-P6029
3.48 (0.1370)	38154-P6030
3.51 (0.1382)	38154-P6031
3.54 (0.1394)	38154-P6032
3.57 (0.1406)	38154-P6033
3.60 (0.1417)	38154-P6034
3.63 (0.1429)	38154-P6035
3.66 (0.1441)	38154-P6036
0.05 (0.0020)	38453-28500
0.07 (0.0028)	38454-28500

SERVICE DATA AND SPECIFICATIONS (S.D.S.)

Final Drive (Cont'd)

Drive pinion bearing preload adjusting washer (R200)

Thickness mm (in)	Part No.
3.80 - 3.82 (0.1496 - 0.1504)	38125-61001
3.82 - 3.84 (0.1504 - 0.1512)	38126-61001
3.84 - 3.86 (0.1512 - 0.1520)	38127-61001
3.86 - 3.88 (0.1520 - 0.1528)	38128-61001
3.88 - 3.90 (0.1528 - 0.1535)	38129-61001
3.90 - 3.92 (0.1535 - 0.1543)	38130-61001
3.92 - 3.94 (0.1543 - 0.1551)	38131-61001
3.94 - 3.96 (0.1551 - 0.1559)	38132-61001
3.96 - 3.98 (0.1559 - 0.1567)	38133-61001
3.98 - 4.00 (0.1567 - 0.1575)	38134-61001
4.00 - 4.02 (0.1575 - 0.1583)	38135-61001
4.02 - 4.04 (0.1583 - 0.1591)	38136-61001
4.04 - 4.06 (0.1591 - 0.1598)	38137-61001
4.06 - 4.08 (0.1598 - 0.1606)	38138-61001
4.08 - 4.10 (0.1606 - 0.1614)	38139-61001

Drive pinion bearing preload adjusting spacer (R200)

Length mm (in)	Part No.
55.10 (2.1693)	38165-B4002
55.40 (2.1811)	38165-B4003
55.70 (2.1929)	38165-B4004
56.00 (2.2047)	38165-61001
56.25 (2.2146)	38166-61001

Side bearing adjusting washer (R200)

Thickness mm (in)	Part No.
2.00 (0.0787)	38453-N3100
2.05 (0.0807)	38453-N3101
2.10 (0.0827)	38453-N3102
2.15 (0.0846)	38453-N3103
2.20 (0.0866)	38453-N3104
2.25 (0.0886)	38453-N3105
2.30 (0.0906)	38453-N3106
2.35 (0.0925)	38453-N3107
2.40 (0.0945)	38453-N3108
2.45 (0.0965)	38453-N3109
2.50 (0.0984)	38453-N3110
2.55 (0.1004)	38453-N3111
2.60 (0.1024)	38453-N3112

Side gear thrust washer (R200)

Thickness mm (in)	Part No.
0.75 - 0.80 (0.0295 - 0.0315)	38424-N3100
0.80 - 0.85 (0.0315 - 0.0335)	38424-N3101
0.85 - 0.90 (0.0335 - 0.0354)	38424-N3102
0.90 - 0.95 (0.0354 - 0.0374)	38424-N3103

TIGHTENING TORQUE (R200)

Unit	N-m	kg-m	ft-lb
Final drive installation			
Drive shaft to rear axle			
VG30E	39 - 49	4 - 5	29 - 36
VG30E*, VG30ET	69 - 78	7 - 8	51 - 58
Rear cover to mounting insulator	88 - 118	9.0 - 12.0	65 - 87
Mounting insulator to body			
Bolt	29 - 39	3 - 4	22 - 29
Nut	59 - 78	6 - 8	43 - 58
Differential carrier to suspension member	59 - 78	6 - 8	43 - 58
Oil cooler mounting bracket to body	3 - 4	0.3 - 0.4	2.2 - 2.9
Oil pump mounting bracket to body	3 - 4	0.3 - 0.4	2.2 - 2.9
Final drive assembly			
Drive pinion nut	186 - 294	19 - 30	137 - 217
Ring gear bolt			
VG30E	69 - 78	7.0 - 8.0	51 - 58
VG30ET	132 - 152	13.5 - 15.5	98 - 112
Side bearing cap bolt	88 - 98	9.0 - 10.0	65 - 72
Rear cover fixing bolt	16 - 24	1.6 - 2.4	12 - 17
Companion flange to propeller shaft fixing bolt	39 - 44	4.0 - 4.5	29 - 33
Filler and drain plugs	59 - 98	6 - 10	43 - 72

*: For Europe