DIFFERENTIAL

030CH–02

SERVICE DATA

Front differential	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing	0.98 – 1.57 N·m (10 – 16 kgf·cm, 8.7 – 13.9 in.·lbf)
		Reused bearing	0.49 – 0.78 N·m (5 – 8 kgf·cm, 4.3 – 6.9 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.25 – 0.45 N·m (3 – 5 kgf·cm, 2.2 – 4.0 in.·lbf)
	Drive pinion to ring gear backlash		0.13 – 0.18 mm (0.0051 – 0.0071 in.)
	Side gear backlash		0 – 0.15 mm (0 – 0.0059 in.)
	Carrier oil seal drive in depth		4.35 ± 0.45 mm (0.171 ± 0.018 in.)
	Side oil seal drive in depth		0 ± 0.30 mm (0 ± 0.0118 in.)
	Side tube oil seal drive in depth		5.3 ± 0.5 mm (0.209 ± 0.020 in.)
	Side gear thrust washer thickness		1.48 – 1.52 mm (0.0583 – 0.0598 in.) 1.53 – 1.57 mm (0.0602 – 0.0618 in.) 1.58 – 1.62 mm (0.0622 – 0.0638 in.) 1.63 – 1.67 mm (0.0642 – 0.0657 in.) 1.68 – 1.72 mm (0.0661 – 0.0677 in.) 1.73 – 1.77 mm (0.0681 – 0.0697 in.) 1.78 – 1.82 mm (0.0701 – 0.0717 in.) 1.83 – 1.87 mm (0.0720 – 0.0736 in.) 1.88 – 1.92 mm (0.0740 – 0.0756 in.)
	Side bearing adjusting washer thickness		1.59 – 1.61 mm (0.0626 – 0.0634 in.) 1.62 – 1.64 mm (0.0638 – 0.0646 in.) 1.65 – 1.67 mm (0.0650 – 0.0657 in.) 1.68 – 1.70 mm (0.0661 – 0.0669 in.) 1.71 – 1.73 mm (0.0673 – 0.0681 in.) 1.74 – 1.76 mm (0.0685 – 0.0693 in.) 1.77 – 1.79 mm (0.0697 – 0.0705 in.) 1.80 – 1.82 mm (0.0709 – 0.0717 in.) 1.83 – 1.85 mm (0.0720 – 0.0728 in.) 1.86 – 1.88 mm (0.0732 – 0.0740 in.) 1.89 – 1.91 mm (0.0744 – 0.0752 in.) 1.92 – 1.94 mm (0.0756 – 0.0764 in.) 1.95 – 1.97 mm (0.0768 – 0.0776 in.) 1.98 – 2.00 mm (0.0780 – 0.0787 in.) 2.01 – 2.03 mm (0.0791 – 0.0800 in.) 2.04 – 2.06 mm (0.0803 – 0.0811 in.) 2.07 – 2.09 mm (0.0815 – 0.0823 in.) 2.10 – 2.12 mm (0.0827 – 0.0835 in.) 2.13 – 2.15 mm (0.0839 – 0.0846 in.) 2.16 – 2.18 mm (0.0850 – 0.0858 in.) 2.19 – 2.21 mm (0.0862 – 0.0870 in.) 2.22 – 2.24 mm (0.0874 – 0.0882 in.) 2.25 – 2.27 mm (0.0886 – 0.0894 in.) 2.28 – 2.30 mm (0.0898 – 0.0906 in.) 2.31 – 2.33 mm (0.0909 – 0.0917 in.) 2.34 – 2.36 mm (0.0921 – 0.0929 in.) 2.37 – 2.39 mm (0.0933 – 0.0941 in.) 2.40 – 2.42 mm (0.0945 – 0.0953 in.) 2.43 – 2.45 mm (0.0957 – 0.0965 in.) 2.46 – 2.48 mm (0.0969 – 0.0976 in.)

Front differential (cont'd)	Drive pinion bearing adjusting washer thickness	1.69 – 1.71 mm (0.0665 – 0.0673 in.) 1.72 – 1.74 mm (0.0677 – 0.0685 in.) 1.75 – 1.77 mm (0.0689 – 0.0697 in.) 1.78 – 1.80 mm (0.0701 – 0.0709 in.) 1.81 – 1.83 mm (0.0713 – 0.0720 in.) 1.84 – 1.86 mm (0.0724 – 0.0732 in.) 1.87 – 1.89 mm (0.0736 – 0.0744 in.) 1.90 – 1.92 mm (0.0748 – 0.0756 in.) 1.93 – 1.95 mm (0.0760 – 0.0768 in.) 1.96 – 1.98 mm (0.0772 – 0.0780 in.) 1.99 – 2.01 mm (0.0783 – 0.0791 in.) 2.02 – 2.04 mm (0.0795 – 0.0803 in.) 2.05 – 2.07 mm (0.0807 – 0.0815 in.) 2.08 – 2.10 mm (0.0819 – 0.0827 in.) 2.11 – 2.13 mm (0.0831 – 0.0839 in.) 2.14 – 2.16 mm (0.0843 – 0.0850 in.) 2.17 – 2.19 mm (0.0854 – 0.0862 in.) 2.20 – 2.22 mm (0.0866 – 0.0874 in.) 2.23 – 2.25 mm (0.0878 – 0.0886 in.) 2.26 – 2.28 mm (0.0890 – 0.0898 in.) 2.29 – 2.31 mm (0.0902 – 0.0909 in.) 2.32 – 2.34 mm (0.0913 – 0.0921 in.)

Rear differential	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing	1.05 – 1.64 N·m (10.7 – 16.7 kgf·cm, 9.3 – 14.5 in.·lbf)
		Reused bearing	0.56 – 0.85 N·m (5.7 – 8.7 kgf·cm, 5.0 – 7.5 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.39 – 0.59 N·m (4.0 – 6.0 kgf·cm, 3.5 – 5.2 in.·lbf)
	Ring gear runout	Max.	0.07 mm (0.0028 in.)
	Ring gear backlash		0.13 – 0.18 mm (0.0051 – 0.0071 in.)
	Side gear backlash		0.05 – 0.20 mm (0.002 – 0.0079 in.)
	Differential case runout	Max.	0.07 mm (0.0028 in.)
	Rear differential front oil seal drive in depth		1.0 ± 0.45 mm (0.039 ± 0.018 in.)
	Side gear thrust washer thickness		0.9 mm (0.035 in.) 1.0 mm (0.039 in.) 1.1 mm (0.043 in.) 1.2 mm (0.047 in.) 1.3 mm (0.051 in.)
	Tooth contact pattern adjusting washer thickness		1.70 mm (0.0669 in.) 1.73 mm (0.0681 in.) 1.76 mm (0.0693 in.) 1.79 mm (0.0705 in.) 1.82 mm (0.0717 in.) 1.85 mm (0.0728 in.) 1.88 mm (0.0740 in.) 1.91 mm (0.0752 in.) 1.94 mm (0.0764 in.) 1.97 mm (0.0776 in.) 2.00 mm (0.0787 in.) 2.03 mm (0.0799 in.) 2.06 mm (0.0811 in.) 2.09 mm (0.0823 in.) 2.12 mm (0.0835 in.) 2.15 mm (0.0846 in.) 2.18 mm (0.0858 in.) 2.21 mm (0.0870 in.) 2.24 mm (0.0882 in.) 2.27 mm (0.0894 in.) 2.30 mm (0.0906 in.) 2.33 mm (0.0917 in.)

Rear differential (w/ Diff. Lock)	Companion flange vertical runout	Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout	Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting)	New bearing	1.05 – 1.64 N·m (10.7 – 16.7 kgf·cm, 9.3 – 14.5 in.·lbf)
		Reused bearing	0.56 – 0.85 N·m (5.7 – 8.7 kgf·cm, 5.0 – 7.5 in.·lbf)
	Total preload (at starting)		Drive pinion preload plus 0.39 – 0.59 N·m (4.0 – 6.0 kgf·cm, 3.5 – 5.2 in.·lbf)
	Ring gear runout	Max.	0.07 mm (0.0028 in.)
	Ring gear backlash		0.13 – 0.18 mm (0.0051 – 0.0071 in.)
	Side gear backlash		0.05 – 0.20 mm (0.002 – 0.0079 in.)
	Differential case runout	Max.	0.07 mm (0.0028 in.)
	Rear differential front oil seal drive in depth		1.0 ± 0.45 mm (0.039 ± 0.018 in.)
	Shift fork to sleeve clearance		0.15 – 0.35 mm (0.006 – 0.0014 in.)
	Side gear thrust washer thickness		0.9 mm (0.035 in.) 1.0 mm (0.039 in.) 1.1 mm (0.043 in.) 1.2 mm (0.047 in.) 1.3 mm (0.051 in.)
	Ring gear backlash adjusting washer thickness		1.70 mm (0.0669 in.) 1.73 mm (0.0681 in.) 1.76 mm (0.0693 in.) 1.79 mm (0.0705 in.) 1.82 mm (0.0717 in.) 1.85 mm (0.0728 in.) 1.88 mm (0.0740 in.) 1.91 mm (0.0752 in.) 1.94 mm (0.0764 in.) 1.97 mm (0.0776 in.) 2.00 mm (0.0787 in.) 2.03 mm (0.0799 in.) 2.06 mm (0.0811 in.) 2.09 mm (0.0823 in.) 2.12 mm (0.0835 in.) 2.15 mm (0.0846 in.) 2.18 mm (0.0858 in.) 2.21 mm (0.0870 in.) 2.24 mm (0.0882 in.) 2.27 mm (0.0894 in.) 2.30 mm (0.0906 in.) 2.33 mm (0.0917 in.)

Rear differential (w/ LSD)	Companion flange vertical runout Max.	0.10 mm (0.0039 in.)
	Companion flange lateral runout Max.	0.10 mm (0.0039 in.)
	Drive pinion preload (at starting) New bearing	1.05 – 1.64 N·m (10.7 – 16.7 kgf·cm, 9.3 – 14.5 in.·lbf)
	Reused bearing	0.56 – 0.85 N·m (5.7 – 8.7 kgf·cm, 5.0 – 7.5 in.·lbf)
	Total preload (at starting)	Drive pinion preload plus 0.39 – 0.59 N·m (4.0 – 6.0 kgf·cm, 3.5 – 5.2 in.·lbf)
	Ring gear runout Max.	0.07 mm (0.0028 in.)
	Ring gear backlash	0.13 – 0.18 mm (0.0051 – 0.0071 in.)
	Side gear backlash	0.05 – 0.20 mm (0.002 – 0.0079 in.)
	Differential case runout Max.	0.07 mm (0.0028 in.)
	Side gear thrust washer thickness (Reference)	1.77 – 1.86 mm (0.0697 – 0.0732 in.)
	Clutch plate thickness (Reference)	1.57 – 1.63 mm (0.0618 – 0.064 in.)
	Compression spring free length (Reference)	27.11 mm (1.067 in.)
	Rear differential front oil seal drive in depth	1.0 ± 0.45 mm (0.039 ± 0.018 in.)
	Adjusting shim thickness	0.15 mm (0.0059 in.) 0.20 mm (0.0059 in.) 0.25 mm (0.0098 in.) 0.30 mm (0.0118 in.) 0.35 mm (0.0138 in.)
	Tooth contact pattern adjusting washer thickness	1.70 mm (0.0669 in.) 1.73 mm (0.0681 in.) 1.76 mm (0.0693 in.) 1.79 mm (0.0705 in.) 1.82 mm (0.0717 in.) 1.85 mm (0.0728 in.) 1.88 mm (0.0740 in.) 1.91 mm (0.0752 in.) 1.94 mm (0.0764 in.) 1.97 mm (0.0776 in.) 2.00 mm (0.0787 in.) 2.03 mm (0.0799 in.) 2.06 mm (0.0811 in.) 2.09 mm (0.0823 in.) 2.12 mm (0.0835 in.) 2.15 mm (0.0846 in.) 2.18 mm (0.0858 in.) 2.21 mm (0.0870 in.) 2.24 mm (0.0882 in.) 2.27 mm (0.0894 in.) 2.30 mm (0.0906 in.) 2.33 mm (0.0917 in.)