

# H Service Data Sheet 1 of 8

**⚠ WARNING**

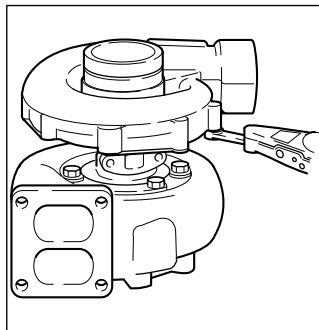


Turbochargers can be hazardous when not used as specified by the manufacturer. To prevent damage and personal injury:

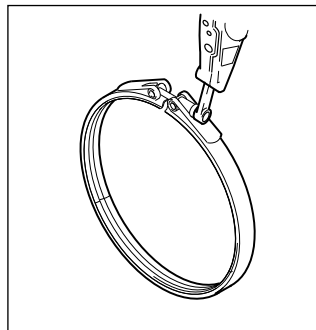
- Always use the turbocharger part number specified by the engine manufacturer.
- Use only in applications approved by the engine manufacturer.
- Do not touch before checking surface temperatures.
- Do not work on a running turbocharger or engine.
- Do not modify the turbocharger in any way.
- Disassemble and re-assemble using the engine manufacturer's instructions.
- Use only approved spare parts.

For advice on the safe use of turbochargers contact [www.holset.com](http://www.holset.com)

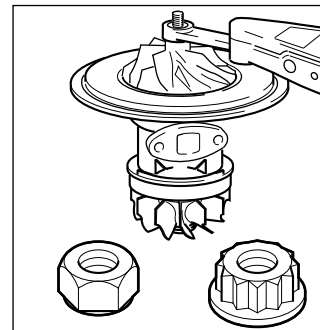
**Bolt, Compressor Housing (Item 59)**



**Locknut, V-Band Compressor (Item 29)**



**Locknut, Compressor Wheel (Item 61)**



**Turbo Model**

**Nm (lb. in)**

**Nm (lb. in)**

**Nm (lb. in)**

6 pt.  
Hexagon

12 pt.  
Hexagon

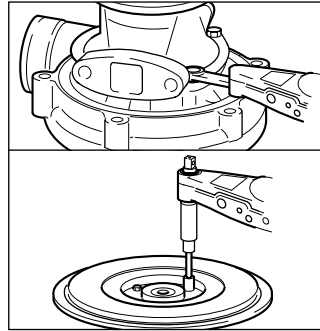
Turbo Model	Nm (lb. in)	Nm (lb. in)	6 pt. Hexagon	12 pt. Hexagon
H1A	8.5 (75)	N/A	6.8 (60)	N/A
H1B	8.5 (75)	N/A	2.3 (20)+75 deg	N/A
H1C (72 mm wheel)	8.5 (75)	8.5 (75)	15 (133)	14 (124)
H1C (82 mm wheel)	8.5 (75)	8.5 (75)	15 (133)	14 (124)
H1D (68 mm wheel)	8.5 (75)	8.5 (75)	15 (133)	14 (124)
H2A (72 mm wheel)	8.5 (75)	8.5 (75)	15 (133)	14 (124)
H2A (76 mm wheel)	8.5 (75)	8.5 (75)	15 (133)	14 (124)
H1E (82 mm wheel)	8.5 (75)	8.5 (75)	15 (133)	14 (124)
H2B	8.5 (75)	8.5 (75)	13.6 (120)	N/A
H2C/D/E/S	8.5 (75)	8.5 (75)	18.1 (160)	N/A
H3B	8.5 (75)	N/A	40.7 (360)	N/A
HC3/HC3B	8.5 (75)	N/A	40.7 (360)	N/A
HT3/HT3B/BHT3B/C/E	8.5 (75)	N/A	40.7 (360)	N/A
HT4/HT4B/HT4C	N/A	8.5 (75)	45.2 (400)	N/A
HC5A (127 mm wheel)	N/A	8.5 (75)	45.2 (400)	N/A
HC5A (130 mm wheel)	N/A	8.5 (75)	45.2 (400)	N/A

**⚠ CAUTION**

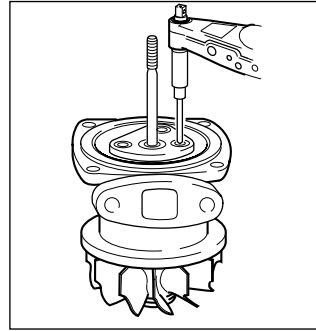
Always refer to [Service Notes](#) before using this service data.

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**Screw, Diffuser  
(Item 56)**



**Screw, Thrust Bearing  
(Item 58)**



**Turbo Model**

**Nm (lb. in)**

**Nm (lb. in)**

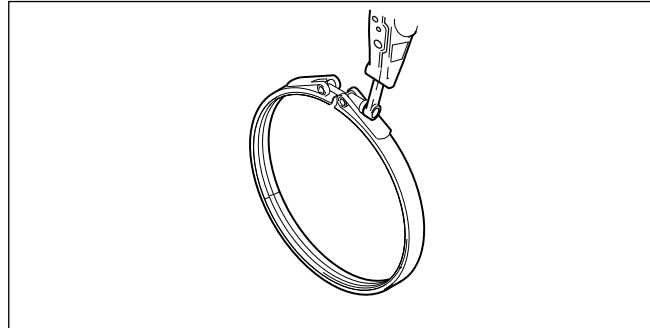
<b>H1A</b>	N/A	4.5 (40)
<b>H1B</b>	N/A	4.5 (40)
<b>H1C (72 mm wheel)</b>	8.5 (75)	4.5 (40)
<b>H1C (82 mm wheel)</b>	8.5 (75)	4.5 (40)
<b>H1D (68 mm wheel)</b>	8.5 (75)	4.5 (40)
<b>H2A (72 mm wheel)</b>	8.5 (75)	4.5 (40)
<b>H2A (76 mm wheel)</b>	8.5 (75)	4.5 (40)
<b>H1E (82 mm wheel)</b>	8.5 (75)	4.5 (40)
<b>H2B</b>	N/A	4.5 (40)
<b>H2C/D/E/S</b>	N/A	4.5 (40)
<b>H3B</b>	N/A	N/A
<b>HC3/HC3B</b>	N/A	N/A
<b>HT3/HT3B/BHT3B/C/E</b>	N/A	N/A
<b>HT4/HT4B/HT4C</b>	24.9 (220)	N/A
<b>HC5A (127 mm wheel)</b>	24.9 (220)	N/A
<b>HC5A (130 mm wheel)</b>	24.9 (220)	N/A

**⚠ CAUTION**

Always refer to [Service Notes](#) before using this service data.

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## Locknut, V-Band Turbine (Item 28)



### Turbo Model

### Nm (lb. in)

Part no.  
3539458

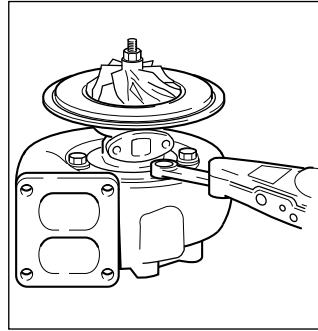
Turbo Model	Nm (lb. in)	Part no.
H1A	N/A	N/A
H1B	N/A	N/A
H1C (72 mm wheel)	N/A	N/A
H1C (82 mm wheel)	N/A	N/A
H1D (68 mm wheel)	N/A	N/A
H2A (72 mm wheel)	N/A	N/A
H2A (76 mm wheel)	N/A	N/A
H1E (82 mm wheel)	N/A	N/A
H2B	N/A	N/A
H2C/D/E/S	N/A	N/A
H3B	8.5 (75) - see note 10	11.3 (100) - see note 10
HC3/HC3B	8.5 (75) - see note 10	11.3 (100) - see note 10
HT3/HT3B/BHT3B/C/E	8.5 (75) - see note 10	11.3 (100) - see note 10
HT4/HT4B/HT4C	8.5 (75)	N/A
HC5A (127 mm wheel)	N/A	N/A
HC5A (130 mm wheel)	N/A	N/A

### CAUTION

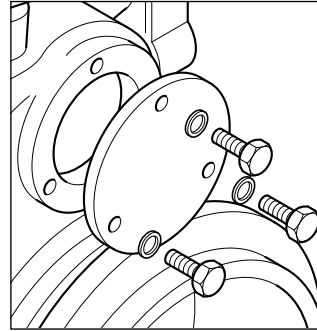
Always refer to [Service Notes](#) before using this service data.

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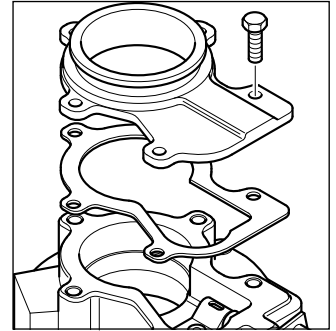
**Bolt, Turbine Housing  
(Item 57)**



**Bolt, Cover Plate  
(item 67)**



**Bolt, Exhaust Adapter  
(item 67)**



## Turbo Model

Nm (lb. in)

Nm (lb. in)

Nm (lb. in)

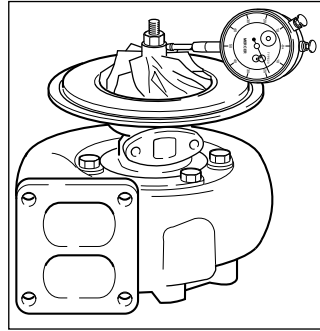
Turbo Model	Nm (lb. in)	Nm (lb. in)	Nm (lb. in)
H1A	26 (230) - see note 6	N/A	N/A
H1B	26 (230) - see note 6	N/A	N/A
H1C (72 mm wheel)	26 (230) - see note 6	N/A	25 (220)
H1C (82 mm wheel)	26 (230) - see note 6	N/A	25 (220)
H1D (68 mm wheel)	26 (230) - see note 6	N/A	N/A
H2A (72 mm wheel)	26 (230) - see note 6	N/A	N/A
H2A (76 mm wheel)	26 (230) - see note 6	N/A	N/A
H1E (82 mm wheel)	26 (230) - see note 6	N/A	25 (220)
H2B	31.6 (280) see note 6	N/A	N/A
H2C/D/E/S	31.6 (280) see note 6	8.5 (75)	N/A
H3B	N/A	N/A	N/A
HC3/HC3B	N/A	N/A	N/A
HT3/HT3B/BHT3B/C/E	N/A	N/A	N/A
HT4/HT4B/HT4C	N/A	N/A	N/A
HC5A (127 mm wheel)	20.3 (180)	N/A	N/A
HC5A (130 mm wheel)	20.3 (180)	N/A	N/A

### **⚠ CAUTION**

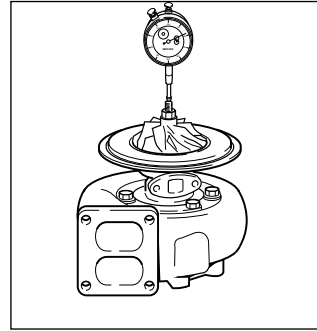
Always refer to [Service Notes](#) before using this service data.

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Radial Movement  
(TIR)



Axial Clearance



Turbo Model

mm (in)

mm (in)

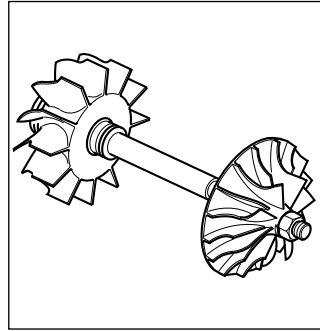
<b>H1A</b>	0.254 - 0.457 (0.010 - 0.018)	0.025 - 0.127 (0.001 - 0.005)
<b>H1B</b>	0.254 - 0.381 (0.010 - 0.015)	0.102 - 0.229 (0.004 - 0.009)
<b>H1C (72 mm wheel)</b>	0.305 - 0.457 (0.012 - 0.018)	0.025 - 0.127 (0.001 - 0.005)
<b>H1C (82 mm wheel)</b>	0.305 - 0.457 (0.012 - 0.018)	0.025 - 0.127 (0.001 - 0.005)
<b>H1D (68 mm wheel)</b>	0.305 - 0.457 (0.012 - 0.018)	0.025 - 0.127 (0.001 - 0.005)
<b>H2A (72 mm wheel)</b>	0.330 - 0.508 (0.013 - 0.020)	0.025 - 0.127 (0.001 - 0.005)
<b>H2A (76 mm wheel)</b>	0.330 - 0.508 (0.013 - 0.020)	0.025 - 0.127 (0.001 - 0.005)
<b>H1E (82 mm wheel)</b>	0.330 - 0.508 (0.013 - 0.020)	0.025 - 0.127 (0.001 - 0.005)
<b>H2B</b>	0.305 - 0.508 (0.012 - 0.020)	0.025 - 0.127 (0.001 - 0.005)
<b>H2C/D/E/S</b>	0.356 - 0.559 (0.014 - 0.022)	0.051 - 0.127 (0.002 - 0.005)
<b>H3B</b>	0.381 - 0.559 (0.015 - 0.022)	0.051 - 0.178 (0.002 - 0.007)
<b>HC3/HC3B</b>	0.381 - 0.559 (0.015 - 0.022)	0.051 - 0.152 (0.002 - 0.006)
<b>HT3/HT3B/BHT3B/C/E</b>	0.381 - 0.584 (0.015 - 0.023)	0.051 - 0.178 (0.002 - 0.007)
<b>HT4/HT4B/HT4C</b>	0.254 - 0.787 (0.010 - 0.031)	0.051 - 0.152 (0.002 - 0.006)
<b>HC5A (127 mm wheel)</b>	0.228 - 0.686 (0.009 - 0.027)	0.025 - 0.152 (0.001 - 0.006)
<b>HC5A (130 mm wheel)</b>	0.228 - 0.762 (0.009 - 0.030)	0.025 - 0.152 (0.001 - 0.006)

**⚠ CAUTION**

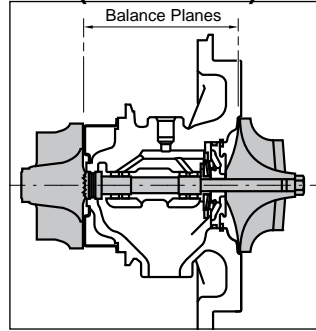
Always refer to [Service Notes](#) before using this service data.

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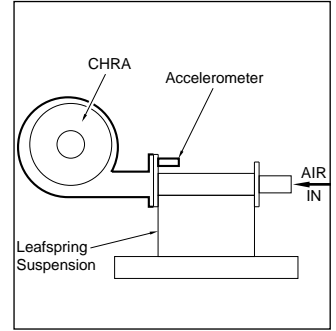
**Rotor Balance**  
(see note 11)



**Core Balance at 4000 rev/min**  
(see note 12)



**Vibration Level on VSR rig**



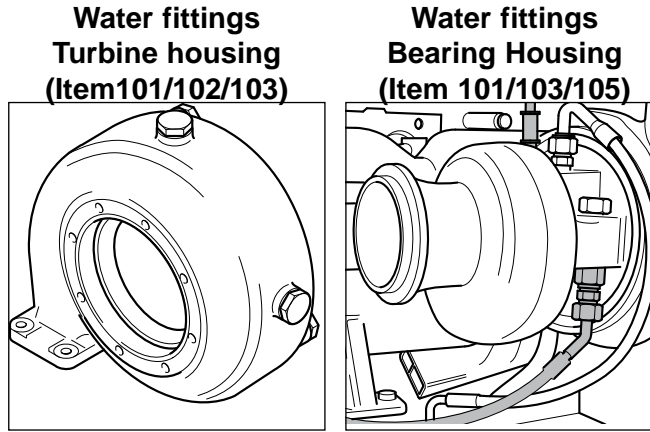
**Turbo Model**

Turbo Model	g. mm (oz. in)		g. mm (oz. in)		g. mm (oz. in)	
	Turbine End	Compressor End	Turbine End	Compressor End	At speeds between 35,000 and 50,000 rev/min	At speeds between 50,000 and 85,000 rev/min
H1A	1.5 (0.002)	1.5 (0.002)	N/A	N/A	N/A	N/A
H1B	1.5 (0.002)	1.5 (0.002)	N/A	N/A	N/A	N/A
H1C (72 mm wheel)	1.5 (0.002)	1.5 (0.002)	1.5 (0.002)	1.8 (0.0025)	2 g see note 13	3.5 g see note 13
H1C (82 mm wheel)	1.5 (0.002)	1.5 (0.002)	1.5 (0.002)	1.8 (0.0025)	2 g see note 13	3.5 g see note 13
H1D (68 mm wheel)	1.5 (0.002)	1.5 (0.002)	0.9 (0.0012)	1.25 (0.0017)	2 g see note 13	3.5 g see note 13
H2A (72 mm wheel)	1.5 (0.002)	1.5 (0.002)	1.5 (0.002)	1.8 (0.0025)	2 g see note 13	3.5 g see note 13
H2A (76 mm wheel)	1.5 (0.002)	1.5 (0.002)	1.5 (0.002)	1.8 (0.0025)	2 g see note 13	3.5 g see note 13
H1E (82 mm wheel)	1.5 (0.002)	1.5 (0.002)	1.5 (0.002)	1.8 (0.0025)	2 g see note 13	3.5 g see note 13
H2B	2.2 (0.003)	4.4 (0.006)	N/A	N/A	N/A	N/A
H2C/D/E/S	2.2 (0.003)	4.4 (0.006)	N/A	N/A	N/A	N/A
H3B	4.4 (0.006)	7.2 (0.010)	4.4 (0.006)	7.2 (0.010)	N/A	N/A
HC3/HC3B	4.4 (0.006)	7.2 (0.010)	4.4 (0.006)	7.2 (0.010)	N/A	N/A
HT3/HT3B/BHT3B/C/E	4.4 (0.006)	7.2 (0.010)	4.4 (0.006)	7.2 (0.010)	N/A	N/A
HT4/HT4B/HT4C	3.6 (0.005)	5.1 (0.007)	3.6 (0.005)	5.1 (0.007)	N/A	N/A
HC5A (127 mm wheel)	7.2 (0.010)	12.3 (0.017)	7.2 (0.010)	12.3 (0.017)	N/A	N/A
HC5A (130 mm wheel)	7.2 (0.010)	12.3 (0.017)	7.2 (0.010)	12.3 (0.017)	N/A	N/A

**⚠ CAUTION**

Always refer to [Service Notes](#) before using this service data.

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Turbo Model	Nm (lb. in)	Nm (lb. in)
H1A	67.8 (600)	40 (354)
H1B	67.8 (600)	40 (354)
H1C (72 mm wheel)	67.8 (600)	40 (354)
H1C (82 mm wheel)	67.8 (600)	40 (354)
H1D (68 mm wheel)	N/A	N/A
H2A (72 mm wheel)	N/A	N/A
H2A (76 mm wheel)	N/A	N/A
H1E (82 mm wheel)	67.8 (600)	40 (354)
H2B	N/A	N/A
H2C/D/E/S	67.8 (600)	67.8 (600)
H3B	N/A	N/A
HC3/HC3B	N/A	N/A
HT3/HT3B/BHT3B/C/E	N/A	N/A
HT4/HT4B/HT4C	N/A	N/A
HC5A (127 mm wheel)	N/A	N/A
HC5A (130 mm wheel)	N/A	N/A

**⚠ CAUTION**

Always refer to [Service Notes](#) before using this service data.

# H Service Data Sheet 8 of 8

## Service Data Sheet Notes

- 1 The list of turbocharger models represents the majority of current specifications. If your model does not appear in the Service Data Sheets, please refer to your nearest distributor for guidance.
- 2 Service Data is sourced from Engineering Specifications and Drawings.
- 3 All permissible Service Allowances are included in this data set.
- 4 Where nominal torque is quoted always aim to achieve this mid-point value during turbocharger assembly processes. To avoid ineffective clamp loading or plastic deformation of components through under or over tightening respectively, nominal torque must be applied using a calibrated torque wrench with not less than +/- 1 Nm (+/- 10 lbf.in) capability. For low torque joints, use equipment that can achieve the specified calibration accuracy. Never use breakaway torque to check clamping efficiency as this can vary up to 40% from nominal.
- 5 Some models have optional specifications (e.g. turbine housing bolts or V-band arrangements). Both are shown for reference.
- 6 European OEM and Holset Aftermarket torque tightening concessions of 26 Nm ( 230 lb.in) and 31.6 Nm (280 lb.in) now adopted in Engineering Specification.
- 7 For the latest Service Data Sheets and Bulletin Board information refer to [www.holsetaftermarket.com](http://www.holsetaftermarket.com).
- 8 Wastegate versions of H series turbochargers are pre-fixed with a "W". Refer to your nearest Holset distributor for wastegate installation instructions.
- 9 All fasteners must be visually clean and be lubricated with light oil prior to torque tightening except where the Service Repair Manual instructs to the contrary.  
Exceptions are:
  - HX20W/HX25/25W/27W Compressor Wheel Locknut, (61) V-Band Locknut, (28) - apply molycote.
  - All other V-Band Locknut (28) (29) and Wastegate Valve Body Screw (79) - fit dry.
  - All fasteners treated with a thread locking patch - fit dry and within 5 minutes of insertion. Use slow tightening feed rate to prevent activation of locking patch prior to full thread engagement.
- 10 V-band Part no. 3539458 superceded Part no. 3504959 from October 2002. Check part number to ensure correct torque setting is used during reassembly.
- 11 Use core balance process when facilities are available.
- 12 Use VSR balance process when facilities are available.
- 13 VSR pass/fail limits are rig specific and advisory. Refer to repairer to warrant durability, noise and vibration of repair.

**CAUTION**

Always refer to **Service Notes** before using this service data.