	Maintenance Instruction		
Title	General Torque Tightening Settings for Krash Industries Jet Ski's		
Issue No	2	**Issue Date**	3 October 2018

1.0 Purpose

To define the torque that Krash Jet Ski fasteners should be tightened.

2. Scope

All Cap Head Screws, Hex Head Screws, fasteners.

3. General Instructions

The tables below provide the specific torque tightness that applies to fasteners used on Krash 50Cal Personal Water Craft and the KV997 Engine.

To avoid warping multi fastener components it is recommended to tighten in a criss-cross pattern and in two progressive stages, the applicable torque for each stage is listed in the torque column.

3.1 Retaining Compound

The retaining compound to be applied to the Hex Head Screws, Cap Head Socket Screws or Button Head Cap Screws, prior to insertion and tightening, is specified in the retaining compound column.

Loctite 243 (Blue) (Henkel Part No: 44092) Highlighted in Blue.

Loctite 263 (Red) (Henkel Part No: 44130) Highlighted in Red.

Loctite Nickel Anti Seize Compound (Henkel Part No: 39163) Highlighted in Grey.

(**Note:** Loctite Activator SF 7649 (Henkel Part No: 39163) **must** be applied to the thread of the screw/bolt before 243 or 263 is applied to the thread.)

3.2 Tools to be used to tighten fasteners

3.2.1 Torque Screw Driver and Torque Wrench

For M3 and M4 fasteners a Torque Screw Driver with ¼ inch drive is recommend to torque tighten.

For M5 and M6 fasteners either a Torque Wrench or a Torque Screw Driver with ¼ inch drive may be used to torque tighten.

For M8 and M10 fasteners a Torque Wrench with a $\frac{3}{8}$ Inch drive is recommended to torque tighten.

Either a micro meter torque wrench or deflecting beam torque wrench can be used.

3.3 Hex Key Sizes

The Hex Key size is the size of Allen Key or Hex Key Socket Driver to be used to tighten the fastener.

3.4 Socket & Open Ended Spanner Sizes

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The sizes of socket set and open ended spanners to be used are listed in the table for General Torque Tightening Specifications at the end of this document.

4. Torque Tightness Tables

Engine					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
Socket Cap Head Screw – (inserted into Cylinder) (Part No: 90-0051)	Anti- Seize	M10	8mm	1st	20
				2nd	40
Socket Cap Head Screw–(inserted into Cylinder Head) (Part No: 90-0034)	Anti- Seize	M8	6mm	1st	15
				2nd	28
Socket Cap Head Screw - (Inserted into Pump Plate) (Part No: 90-0012)	243	M5	4mm	1st	5
Socket Cap Head Screw - (Inserted into Bottom Plate) (Part No:90-0036)	243	M8	6mm	1st	18
Socket Cap Head Screw – (Inserted in Inlet Manifold) (Part No: 90-0025)	243	M6	5mm	1st	8
Socket Cap Head Screw-(Inserted in Airbox Machined) (Part No: 90-0037)	Anti- Seize	M8	6mm	1st	20
Socket Cap Head Screw-(Inserted Airbox Baseplate Modified) (Part No: 90-0037)	Anti- Seize	M8	6mm	1st	20
Socket Cap Head Screw - (Inserted Front Cover) (Part No: 90-0027)	243	M6	5mm	1st	8
Flywheel Bolt – 13mm Socket or 13mm Ring Spanner (Part No: 30-0129)	263	M10	13mm	1st	60
				2nd	75
Socket Cap Head Screw - (Inserted in Pickup Assembly (Part No: 90-0002)	243	M6	5mm	1st	8
Socket Cap Head Screw - (Inserted in Power Valve) (Part No: 90-0025)	243	M5	4mm	1st	5
Exhaust Manifold (Part No:	243	M6	5mm	1st	8

Exhaust System					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
(Inserted into Exhaust Manifold) (Part No:)	243	M8	6mm	1st	18
(Inserted into Exhaust Manifold) (Part No:)	243	M8	6mm	1st	18
Socket Cap Head - (Inserted into Centre Section) (Part No: 90-0038)	243	M10	8mm	1st	20
				2nd	35
Hose Clamp – Exhaust Coupler Rubber (Part No: 92-2000)	Not Applicable	M4	7mm	1st	5
Hose Clamp – Exhaust Elbow & Exhaust Hose (Part No: 92-2001)	Not Applicable	M4	7mm	1st	3
Socket Cap Head Screw - (Inserted into Hull Hooks) (Part No: 90-0024)	263	M6	5mm	1st	8

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Jet Unit Assembly					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
Hex Head Screw - (Inserted into Nozzle / Wear Ring) (Part No: 90-1007)	243	M10 Hex	13mm	1st	8
Socket Cap Head Screw – (Inserted into Pump Cone) (Part No:	243	M5	4mm	1st	5
Nozzle / Stator / Wearing (Part No:	243	M6	5mm	1st	8
(inserted into the Midshaft Housing) (Part No:	243	M8	13mm (Socket)	1st	15

Engine Mounting					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
Socket Cap Head Screw - (Inserted in Engine Bed Plate (Part No:	263	M8	6mm	1st	18
Socket Cap Head Screw - (Inserted in Engine Mount (Part No:	243	M8	6mm	1st	18

Battery					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
Battery (Part No: 95-0001) Supplied as part of the Battery	Don't Use	M5	4mm	1st	Hand Tight
Battery Box (Part No: 90-0025)	243	M6	5mm	1st	8

E Box					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
Cover Cap Screws (Part No: 90-0012)	Don't Use	M5	2.5mm	1st	1.5
CDI Inserted into E Box (Part No: 90-2002)	Don't Use	M5	4mm	1st	Hand Tight
Retaining studs to firewall	243	M6	5mm	1st	8

Pole & Steering					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
M8 Socket Cap Head Screws	263	M8	6mm	1st	18
M8 Socket Cap Head Screws - Countersunk	263	M8	6mm	1st	18
M6 Socket Cap Head Screw	263	M6	5mm	1st	8

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M6 Socket Cap Head Screws - Countersunk	263	M6	5mm	1st	8
M5 Socket Cap Head Screw	263	M5	4mm	1st	5
M5 Socket Cap Head Screws - Countersunk	263	M5	4mm	1st	5
M3 – Hand Grips	Don't Use	M3	2.5mm	1st	Hand Tight

Hull					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
(Inserted into Ride Plate Flatwater) (Part No: 10-0031)	243	M8	6mm	1st	8 Nm
				2nd	12Nm
(Inserted into Ride Plate Surf) (Part No: 10-0031)	243	M8	6mm	1st	8 Nm
				2nd	12Nm
(Inserted into Intake Grate Flatwater) (Part No:	243	M8	6mm	1st	20
(Inserted into Intake Grate Surf) (Part No:	243	M8	6mm	1st	20
Socket Cap Head Screw - (Inserted into Hull Hooks) (Part No: 90-0024)	263	M6	5mm	1st	8

Engine Mounting					
Item	**Retaining Compound**	**Size**	**Hex Key Size**	**Torque [Nm]**	
Screw Socket Cap Head – (Inserted into Engine Bed Plates) (Part No: 90-0040)	243	M10	8mm	1st	20
				2nd	40
Hex Head Screw - (inserted into Engine Mount) (Part No: 90-1006)	243	M8	6mm	1st	20

If no tightening torque is specified use the following general torques.

General Torque Tightening Specifications					
Tool Type / Tool Size		**Size**	**Hex Key Size**	**Torque [Nm]**	
Open Ended/Ring Spanner/Socket Size	7mm	M4	3mm	1st	3
Open Ended/Ring Spanner/Socket Size	8mm	M5	4mm	1st	5
Open Ended/Ring Spanner/Socket Size	10mm	M6	5mm	1st	8
Open Ended/Ring Spanner/Socket Size	13mm	M8	6mm	1st	18
Open Ended/Ring Spanner/Socket Size	17mm	M10	8mm	1st	36

Change History			
Issue No	**Issue Date**	**Amended by**	**Amendment**
1	9 August 18	J.Smith	Initial release of specification.
2	10 Oct 18	J.Smith	General revision of maintenance instruction.