



**Technical News 160**  
**November 2014**  
**Strictly Confidential**

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## Item 1.

**Description:** Frame Bolt Tightening Sequence

**Models affected:** Tiger Explorer and Tiger Explorer XC

The frame bolt tightening sequence and torque figures have been updated for the above models. When refitting an engine to the above models, follow the new frame bolt tightening sequence as described in the procedure below:

**Note:**

- When carrying out the cylinder head rework described in Technical News 144 (April 2013), the following frame tightening procedure should be used when refitting the engine to the frame.

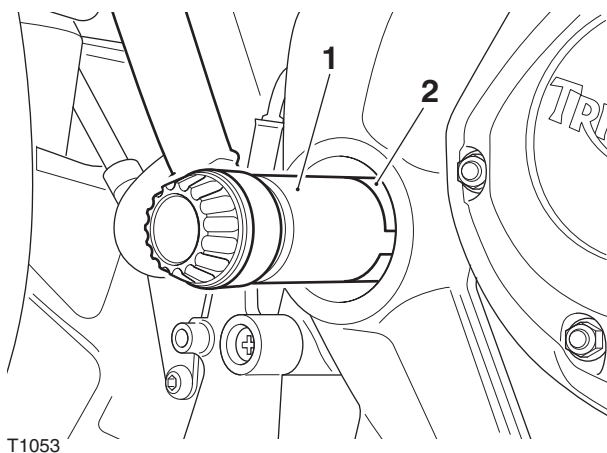


### Warning

Before starting work, ensure the motorcycle is stabilised and adequately supported. This will help prevent it from falling and causing injury to the operator or damage to the motorcycle.

**Note:**

- Before starting this procedure, complete steps 1 to 6 of the engine installation procedure as described in the Service Manual.
  - The swinging arm's right hand pivot pin must be loosened before the frame bolts can be tightened.
1. Carefully remove the cover from the swinging arm's right hand pivot pin.
  2. Using the service tool Lock Ring Wrench, 38 mm T3880062, remove the locking ring from the right hand pivot pin.



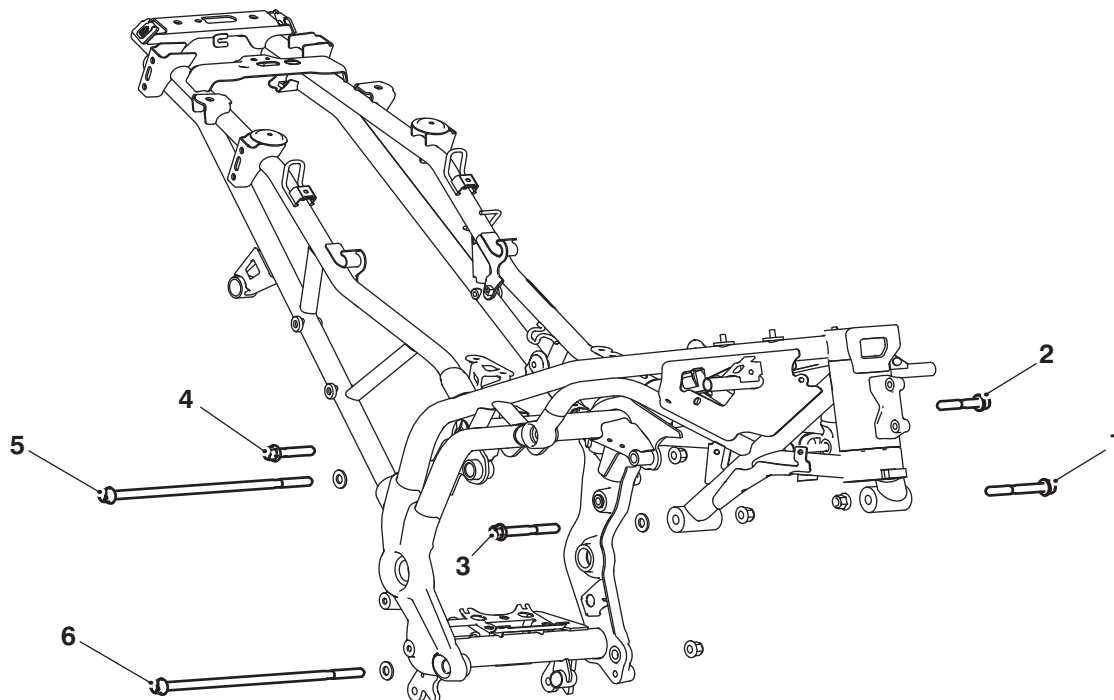
1. Lock Ring Wrench, 38 mm T3880062
2. Locking ring
3. Loosen the right hand pivot pin but do not fully remove.

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**Note:**

- The following steps assume that the front cylinder head bolts are still temporarily fitted as described in step 3 of the engine installation procedure in the Service Manual.
4. Raise the rear of the engine and align the engine to the frame.

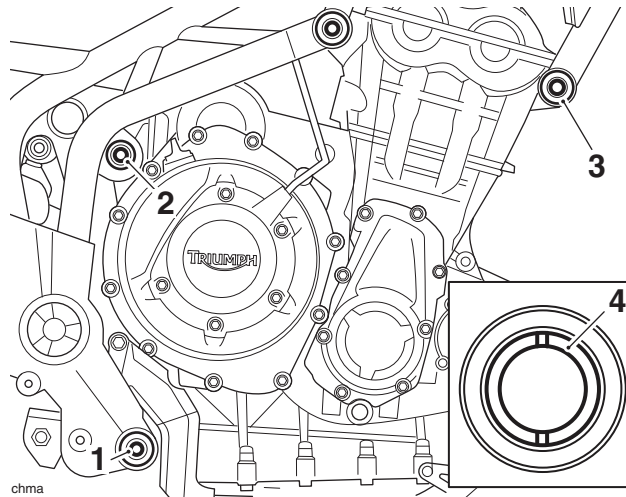
**Frame Bolts Exploded View**



1. Left hand front cylinder head bolt
2. Left hand rear cylinder head bolt
3. Right hand front cylinder head bolt
4. Right hand rear cylinder head bolt
5. Upper crankcase bolt
6. Lower crankcase bolt

5. Temporarily fit the crankcase mounting bolts and washers to the left hand side of the frame.
6. Remove the right hand front cylinder head bolt and washer and temporarily refit to the left hand side of the mounting point.
7. Lubricate the threads of the new rear cylinder head bolts **only** with a smear of proprietary high temperature copper-based grease.
8. Fit the new right hand rear cylinder head bolt ensuring that the spacer is fitted between the cylinder head and frame. Do not fully tighten at this stage.
9. Fit the new left hand rear cylinder head bolt. Do not fully tighten at this stage.
10. Fit a new lock nut to the left hand front cylinder head bolt and tighten to **24 Nm**.
11. Tighten the left hand rear cylinder head bolt to **85 Nm**.

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12. Using tool Engine Mounting Adjuster Wrench T3880377, tighten the three adjusters in the following sequence.
    - Tighten the lower crankcase adjuster to **5 Nm** then, remove the lower crankcase bolt and washer and refit to the right hand side of the frame.
    - Tighten the upper crankcase adjuster to **5 Nm** then, remove the upper crankcase bolt and washer and refit to the right hand side of the frame.
    - Tighten the cylinder head right hand front adjuster to **3 Nm** then, remove the right hand front cylinder head bolt and washer and refit to the right hand side of its mounting.



1. Lower crankcase adjuster
2. Upper crankcase adjuster
3. Cylinder head front right adjuster
4. Adjuster

13. Remove the support from beneath the engine.
14. Fit new lock nuts and tighten in the following sequence:
  - Upper crankcase mounting lock nut to **100 Nm**.
  - Lower crankcase mounting lock nut to **100 Nm**.
  - Right hand rear cylinder head bolt to **85 Nm**.
  - Left hand front cylinder head bolt and lock nut to **115 Nm**.
  - Right hand front cylinder head bolt and lock nut to **100 Nm**.

**Note:**

- **Continue from step 11 of the engine installation procedure as described in the Service Manual, omitting the steps describing the removal of the swinging arm's right hand pivot pin cover and locking ring (these are completed by steps 1 and 2 of this procedure).**

When ordering replacement parts, always refer to EPC.

**Please mark your copy of the Service Manual and Technical News 144 (April 2013) with this information.**

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**Item 2.****Description:**                   **New Harness and Harness/Gear Position Sensor Parts Kit****Models affected:**           **Tiger Explorer and Tiger Explorer XC**

A new harness has been released for the above models from:

- Engine number 679707 - All markets except Brazil
- Engine number 680149 - Brazil market only.

This new harness is now connected directly to the gear position sensor without the use of a fly lead.

A harness and gear position sensor parts kit has also been released for use when replacing the harness on the above models up to engine number 596480 that do not have the fly lead gear position sensor fitted.

**Note:**

- **From engine number 596481 a new gear position sensor and fly lead was introduced to the above models, see Technical News 143 dated March 2013. A parts kit was also released, for earlier engines.**
- **The new harness is retrofittable to earlier models without the fly lead fitted only when fitted together with parts kit T2501116.**
- **The new harness is retrofittable to earlier models fitted with the fly lead by removing the fly lead and connecting the harness to the gear position sensor.**
- **Refer to the following table when replacing either the harness or the gear position sensor on the above models:**

<b>When Replacing</b>	<b>On Tiger Explorer and Tiger Explorer XC Models</b>	<b>Use</b>
Gear position sensor	Up to engine number 596480 without the fly lead for the gear position sensor	Fly lead and gear position sensor kit T1298294
	From engine number 596481 with the fly lead for the gear position sensor fitted	Gear position sensor T1290660
Harness	Up to engine number 596480 without the fly lead for the gear position sensor	Harness and gear position sensor kit T2501116
	From engine number 596481 with the fly lead for the gear position sensor fitted	Harness T2501095

**T2501116 - Kit, Harness and Gear Sensor - Tiger Explorer and Tiger Explorer XC up to engine number 596480****Parts Kit Contents**

<b>Parts Kit</b>	<b>Parts Kit Contents</b>	<b>Part Numbers</b>
T2501116	Harness, Main	T2501095
	Sensor, Gear Position	T1290660
T1298294	Sensor, Gear Position	T1290660
	Fly Lead, Gear Position Sensor	T25109955
	O-ring	T3600267

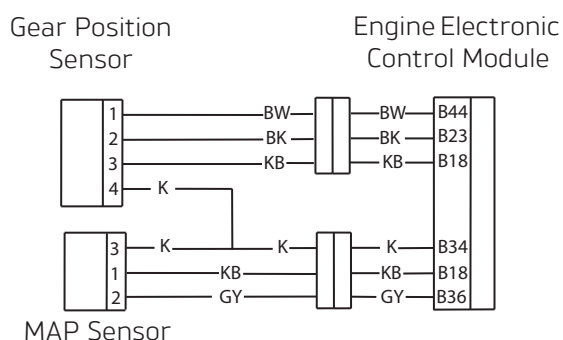
The gear position sensor pinpoint test procedure has also changed. The pinpoint test procedure for the new gear position sensor and old gear position sensors with a fly lead is as follows:

### Pinpoint Tests

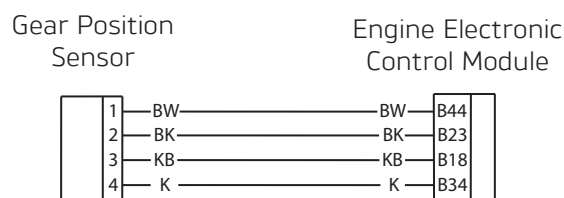
Test	Result	Action
1 Check cable and terminal integrity: - ECM pin B44 - ECM pin B18 - ECM pin B23 - ECM pin B34	OK	Disconnect sensor and proceed to test 2
	Faulty	Rectify fault, proceed to test 5
2 Check cable for short circuit: - ECM pin B44 to ground - ECM pin B34 to ground - ECM pin B23 to ground	OK	Proceed to test 3
	Short circuit	Locate and rectify wiring fault, proceed to test 5
3 Check cable continuity: - ECM pin B44 to sensor pin 1 - ECM pin B23 to sensor pin 2 - ECM pin B34 to sensor pin 4 - ECM pin B18 to sensor pin 3	OK	Proceed to test 4
	Open circuit	Locate and rectify wiring fault, proceed to test 5
4 Check cable for short circuit: - ECM pin B34 to ECM pin B23 - ECM pin B34 to ECM pin B18 - ECM pin B34 to ECM pin B44 - ECM pin B23 to ECM pin B18 - ECM pin B23 to ECM pin B44 - ECM pin B44 to ECM pin B18	OK	Renew gear position sensor and contact pin and proceed to test 5
	Short circuit	Locate and rectify wiring fault, proceed to test 5
5 Reconnect harness, clear fault code	OK	Action complete, quit test and run engine
	Fault still present	Contact Triumph service

### Circuit Diagrams

#### Old Gear Position Sensor with Fly Lead



#### New Gear Position Sensor



When ordering replacement parts, always refer to the EPC.

**Please mark your copy of the Service Manual with this information.**

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### Item 3.

**Description:** Panniers

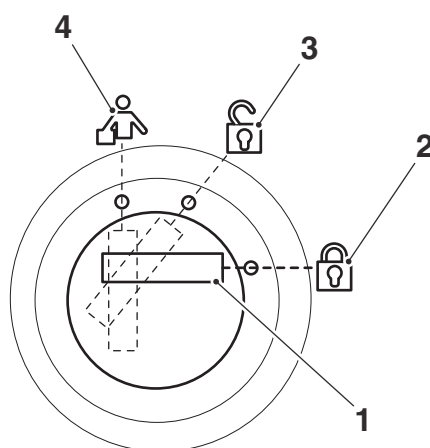
**Models affected:** Trophy SE

Panniers will not be supplied with the above models in the packing crate from VIN 657579. The panniers will be delivered to the dealers separately.

The panniers will be supplied assembled with only the lock barrel to be fitted. To fit the lock barrel, follow the procedure described below:

**Note:**

- **The lock barrel will only fit one way.**
1. Take a lock barrel and key (supplied with the motorcycle), insert the key into the barrel and push the barrel into position in the pannier until it clicks into place.
  2. Check the operation of the lock barrel.
  3. Turn the key to the LOCK position and remove the key.
  4. Fit the lock barrel to the remaining panier in the same manner.



1. Key slot, shown in the locked position
2. Lock position symbol
3. Unlock position symbol
4. Release position symbol

To fit the panniers to the motorcycle, refer to the Motorcycle Assembly Guide.

**Please mark your copy of the Service Manual with this information.**

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**Item 4.****Description:** Instrument Pack Washer**Models affected:** Various

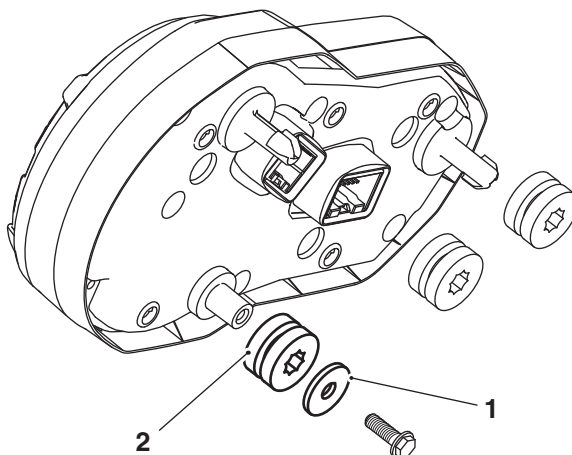
Model	From VIN
Speed Triple and Speed Triple R - All Models	679575
Street Triple, Street Triple R, Street Triple 70 kW version and Street Triple 660 cc - All Models	680475
Tiger Explorer and Tiger Explorer XC - All Models	678630
Tiger Sport	679575

A revised washer with an increased outside diameter has been introduced on the above models and is retrofittable. If the instrument pack is removed or replaced for any reason, a larger 18 x 1.6 mm washer should be fitted.

When ordering replacement parts, always refer to the EPC.

**Note:**

- **Models already in service need not be replaced unless the instruments have been loosened or removed.**



1. Washer 18 x 1.6 mm
2. Grommet

Please mark your copy of the Service Manual with this information.



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## Item 5.

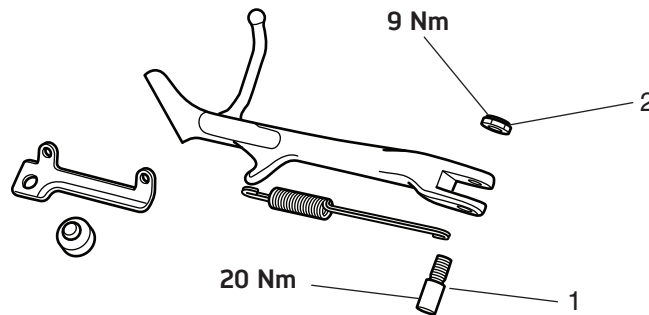
**Description:** Side Stand Fixing

**Models affected:** All Thunderbird 1600 cc and Thunderbird 1700 cc Models

The torque figure for the side stand bolt on the above models has changed to **20 Nm** and the side stand lock nut has changed to **9 Nm**.

**Note:**

- Models already in service need not be retightened unless the fixings have been loosened or removed.



1. Bolt
2. Lock nut

Please mark your copy of the Service Manual with this information.

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**Item 6.**

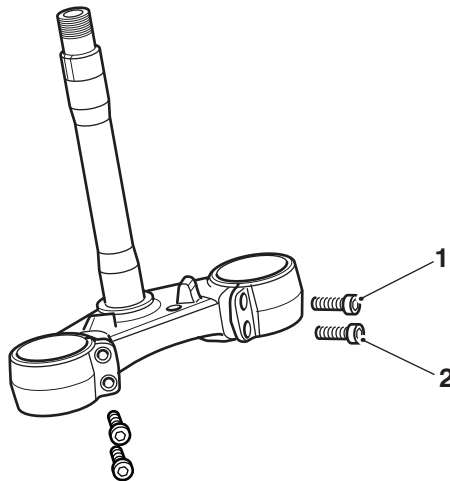
**Description:** Lower Yoke Pinch Bolt Tightening Sequence

**Models affected:** All Models With Two Lower Yoke Pinch Bolts Per Fork Leg

A new lower yoke pinch bolt tightening sequence has been released for all models with two lower yoke pinch bolts per fork leg.

The new tightening sequence is as follows:

1. Tighten the upper pinch bolt to the torque specified in the Service Manual.
2. Tighten the lower pinch bolt to the torque specified in the Service Manual.
3. Retighten the upper pinch bolt to the torque specified in the Service Manual.



1. Upper pinch bolt
2. Lower pinch bolt

Please mark your copy of the Service Manual with this information.

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**Item 7.**

**Description:** Update to Service Manual Full Specifications

**Models affected:** Speed Triple, Speed Triple R from VIN 461332, Sprint ST, Sprint GT, Tiger 1050 and Tiger Sport

We have identified that the following specifications detailed in the Service Manuals for the above models are incorrect:

**Tiger 1050 and Tiger Sport**

- Exhaust valve stem diameter.

**Speed Triple and Speed Triple R from VIN 461332**

- Inlet valve guide bore diameter
- Exhaust valve stem diameter
- Exhaust valve guide bore diameter.

**Sprint ST and Sprint GT**

- Exhaust valve stem diameter
- Exhaust valve guide bore diameter.

The correct specifications for the items listed above are as follows:

<b>Item</b>	<b>All Models</b>
Exhaust valve stem diameter	4.995 - 4.970 mm
Service limit	4.945 mm
Inlet valve guide bore diameter	5.000 - 5.015 mm
Service Limit	5.043 mm
Exhaust valve guide bore diameter	5.000 - 5.015 mm
Service Limit	5.063 mm

**Note:**

- **The valve stem to guide clearance specifications are correct as detailed in the Service Manuals for all models listed above.**

**Please mark your copy of the Service Manual with this information.**

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**Item 8.**

**Description:** Crankcase Spares Kit - Update to VIN ranges specified in Technical News 151, Item 11

**Models affected:** Speed Triple, Speed Triple R, Sprint GT and Tiger 1050

The VIN range specified in Technical News 151, Item 11 has changed. When ordering crankcase spares kit T1169090, refer to the VIN ranges listed below.

**Crankcase Spares Kit**

A new crankcase spares kit incorporating the components necessary for the sliding selector shaft mechanism has been released for use with:

- Speed Triple and Speed Triple R models from VIN 537881 up to VIN 562631.
- Sprint GT and Tiger 1050 models from VIN 535379 up to VIN 562631.

The new crankcase spares kit has been released to ensure continued parts support for the models listed in the VIN ranges above. The kit enables the conversion of non-sliding selector shaft models to the current condition, where crankcase replacement is required.

Parts will no longer support old condition, non-sliding selector shaft crankcases and any replacement will be the new condition.

**Note:**

- **New condition crankcases can be installed as described in the Service Manual.**
- **The sliding selector shaft can be installed as described in Technical News 139, Item 1.**

**Crankcase Spares Kit Contents**

<b>Kit Part Number</b>	<b>Kit Contents</b>	<b>Part Numbers</b>	<b>Quantity</b>
T1169090	Crankcase spares assembly	T1169111	1
	Detent arm assembly	T1190115	1
	Detent lever spring	T1190666	1
	Keeper plate	T1190207	1
	Dry seal plug, N.P.S.I. 3/8	T3450005	1
	E-clip	T3500044	2
	Selector shaft, sliding	T1191424	1

When ordering replacement parts, always refer to EPC.

**Please mark your copy of the Service Manual with this information.**

**Item 9.**

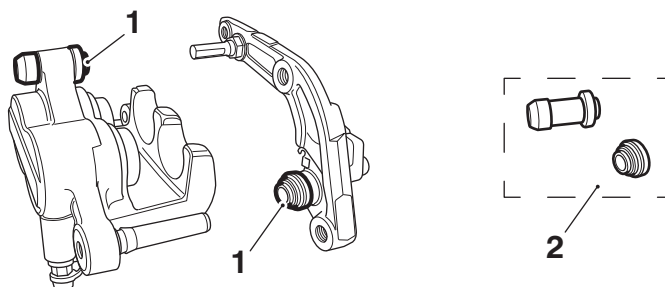
**Description:** Sliding Caliper Seal Kit

**Models affected:** Various

A parts kit containing sliding caliper pin gaiters has been released. The kit can be used to replace sliding pin gaiters on the calipers identified for the following models:

Models	Front Caliper(s)	Rear Caliper
America and Speedmaster EFI - All Models	•	•
Bonneville T100 EFI - All Models	•	•
Bonneville and Bonneville SE EFI from VIN 380777 - All Models	•	•
Scrambler and Thruxton EFI - All Models	•	•
Speed Triple and Speed Triple R from VIN 461332 - All Models		•
Sprint GT		•
Street Triple, Street Triple 70 kW version and Street Triple 660 cc from VIN 560477	•	
Tiger 800 and Tiger 800XC - All Models	•	
Tiger XRx and Tiger XCx	•	
Tiger Explorer and Tiger Explorer XC		•
Tiger Sport		•
Trophy and Trophy SE		•

When servicing the brake calipers identified for the models listed above, inspect the sliding pin gaiters for damage and replace if necessary using parts kit T2021707.



1. Sliding pin gaiters - Street Triple left hand front caliper shown
2. Kit T2021707

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**Note:**

- **Removal, disassembly, inspection, assembly and installation of brake calipers is as described in the Service Manual for each model.**
- **Always check for correct brake operation after installation of new braking system parts.**



**Warning**

It is dangerous to operate the motorcycle with defective brakes; you must have your authorised Triumph dealer take remedial action before you ride the motorcycle again. Failure to take remedial action may result in reduced braking efficiency leading to loss of motorcycle control and an accident.

When ordering replacement parts, always refer to the EPC.

**Please mark your copy of the Service Manual with this information.**

**Circulation**

Initial and date when read and return to central file holder

Service Manager	Parts Manager	Sales Manager	Workshop Supervisor	Technician 1	Technician 2