

S H O P



MANUAL

SEA-DOO®

SUPPLEMENT

USE IN CONJUNCTION WITH THE SEA-DOO SHOP MANUAL (P/N 219 100 031)

GSX GTX

5620 5640

2 1 9 1 0 0 0 3 4



SEADOO®

SHOP MANUAL SUPPLEMENT



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SAFETY NOTICE

SAFETY NOTICE

This manual was primarily published to be used by watercraft technicians trained by the manufacturer who are already familiar with all service and maintenance procedures relating to Bombardier made Sea-Doo watercraft.

Please note that the instructions will apply only if proper hand tools and special service tools are used.

It is understood that this manual may be translated into another language. In the event of any discrepancy, the English version shall prevail.

The content depicts parts and / or procedures applicable to the particular product at its time of manufacture. It does not include dealer modifications, whether authorized or not by Bombardier, after manufacturing the product.

The use of Bombardier parts is most strongly recommended when considering replacement of any component. Dealer and / or distributor assistance should be sought in case of doubt.

Torque wrench tightening specifications must be strictly adhered to. Locking devices (ex. : locking disk, lock nut) must be installed or replaced with new ones, where specified. If the efficiency of a locking device is impaired, it must be renewed.

This manual emphasizes particular information denoted by the wording and symbols ;

◆ **WARNING** : Identifies an instruction which, if not followed, could cause serious personal injury including possibility of death.

▼ **CAUTION** : Denotes an instruction which, if not followed, could severely damage watercraft components.

○ **NOTE** : Indicates supplementary information needed to fully complete an instruction.

Although the mere reading of such information does not eliminate the hazard, your understanding of the information will promote its correct use. Always use common shop safety practice.

This information relates to the preparation and use of Bombardier watercraft and has been utilized safely and effectively by Bombardier Inc. However, Bombardier Inc. disclaims liability for all damages and / or injuries resulting from the improper use of the contents. We strongly recommend that any services be carried out and / or verified by a highly skilled professional technician. It is understood that certain modifications may render use of the watercraft illegal under existing federal, provincial and state regulations.

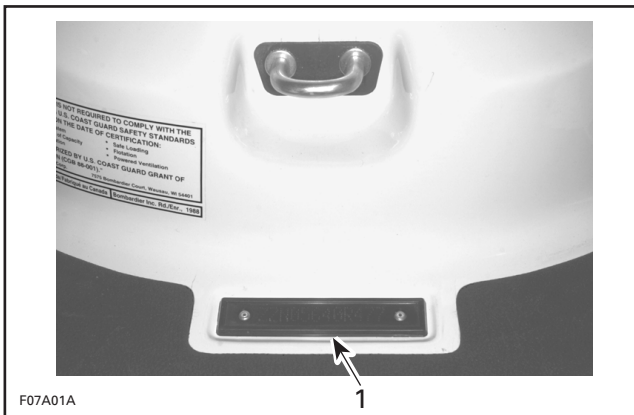
INTRODUCTION

This *Sea-Doo Shop Manual Supplement* contains information specifically applicable to the GSX (5620) and GTX (5640) watercraft models.

This manual covers the main differences of these new models. If a particular system is not covered in this manual, refer to the *Sea-Doo Shop Manual* (P / N 219 100 031) to obtain the required additional information.

HULL IDENTIFICATION NUMBER (H.I.N.)

The Hull Identification Number is located on the floorboard at the rear of the watercraft.



TYPICAL

1. Hull Identification Number

ARRANGEMENT OF THIS MANUAL

The manual is divided into 6 sections :

- 01 ELECTRICAL SYSTEM
- 02 PROPULSION SYSTEM
- 03 STEERING SYSTEM
- 04 HULL / BODY
- 05 TECHNICAL DATA
- 06 WIRING DIAGRAMS

INSTRUMENTS AND ACCESSORIES

GENERAL

It is possible to activate the Info Center gauge when the engine is not running.

Make sure the safety lanyard is removed, then depress the start / stop button.

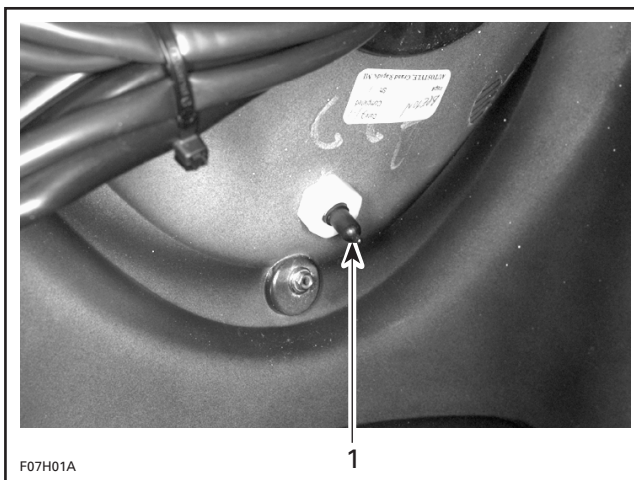
The gauge will be activated during 33 seconds; the time the delay timer of the MPEM will stay on.

INSPECTION

Exterior Temperature Sensor

The temperature sensor is located in the storage cover.

Remove the back panel of the storage cover to access the temperature sensor.



1. Temperature sensor

To check if the temperature sensor is operational, activate the Info Center gauge and select the exterior temperature mode.

Use a heat gun to warm up the sensor. The temperature should raise rapidly on the gauge.

If not, replace the temperature sensor.

Lake Temperature Sensor

The lake temperature sensor is integrated with the speed sensor located on the ride plate.

To check if the lake temperature sensor is operational, activate the Info Center gauge and select the lake temperature mode.

With a garden hose, spray the speed sensor with water. The lake temperature on the Info Center gauge should adjust to the water temperature.

If not, replace the speed sensor.

Speed Sensor

To check if the speed sensor is operational, disconnect the speed sensor connector housing from inside bilge.

Using an appropriate terminal remover, remove the PURPLE / YELLOW and BLACK / ORANGE wires from the tab housing.

Reconnect the PURPLE / YELLOW and BLACK / ORANGE wires in the receptacle housing.

Connect the positive probe of a voltmeter to speed sensor PURPLE / YELLOW wire and the negative probe to speed sensor BLACK / ORANGE wire.

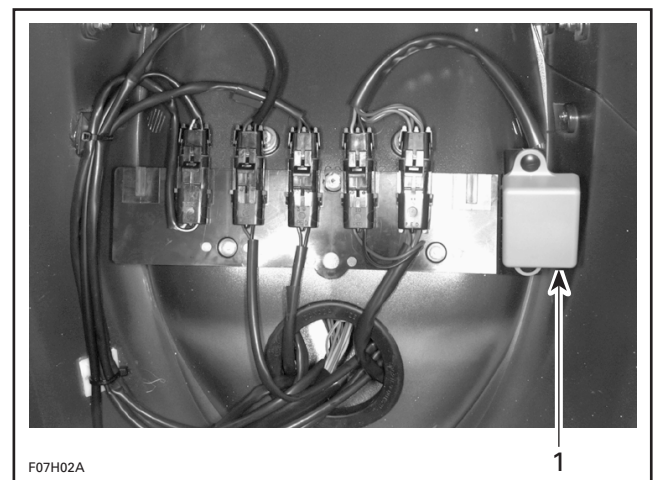
Depress the start / stop button to activate the delay timer.

Spin the paddle wheel. There should be a voltage fluctuation.

Compass

The compass is located in the storage cover.

Remove the back panel of the storage cover to access the compass.



1. Compass

Remove the compass from the support.

Activate the Info Center gauge.

Section 01 ELECTRICAL SYSTEM

Sub-Section 01 (INSTRUMENTS AND ACCESSORIES)

Change the direction of the compass. There should be a change of direction on the Info Center Gauge.

NOTE : To check the accuracy of the compass, you can use a portable compass and point it in the same direction. Compare the given directions, they should be the same.

Fuel Baffle Pick-Up Sensor

To verify fuel sensor, a resistance test should be performed with an ohmmeter allowing the float to move up through a sequence.

The resistance measured between PINK / BLACK and PINK wires must be in accordance with fuel level (measured from under the flange) as specified in the following chart.

FUEL LEVEL AND RESISTANCE (GSX and GTX)	
FUEL LEVEL (mm)	RESISTANCE (Ω)
From 248.9 \pm 5 and more	0 + 2.2
From 234.4 @ 248.8 \pm 5t	17.8 \pm 2.2
From 200.9 @ 234.3 \pm 5	27.8 \pm 2.2
From 167.4 @ 200.8 \pm 5	37.8 \pm 2.2
From 134.0 @ 167.3 \pm 5	47.8 \pm 2.2
From 100.5 @ 133.9 \pm 5	57.8 \pm 2.2
From 67.0 @ 100.4 \pm 5	67.8 \pm 2.2
From 40.1 @ 66.9 \pm 5	77.8 \pm 2.2
From 0 @ 40.0 \pm 5	89.8 \pm 2.2

Tachometer

The PURPLE wire is the 12 VDC power source of the tachometer.

The BLACK wire is the ground.

The GRAY wire is the pulse signal from the multi-purpose electronic module (MPEM).

The TAN / BLUE wire is the signal for the red warning LED. When the engine overheats, the temperature sensor is grounded to the engine, which closes the circuit and the LED turns on.

Speedometer

The PURPLE wire is the 12 VDC power source of the speedometer.

The BLACK wire is the ground.

The PURPLE / YELLOW wire is the pulse signal from the speed sensor.

The BLUE wire is the signal for the red warning LED. When the oil level is low in the reservoir, the oil sensor resistance is infinite and the light turns on.

Info Center Gauge

The PURPLE wire is the 12 VDC power source of the Info Center gauge.

The BLACK wire is the ground.

The RED / PURPLE wire is the 12 VDC from the battery protected by a 5 A fuse on the MPEM. If this wire is disconnected or if the fuse is blown, the Info Center gauge will not turn on.

The PINK wire is the signal for the red warning LED. When the fuel level is low in the reservoir, the fuel sensor resistance is high and the light turns on.

The accuracy of some features of the Info Center gauge can be checked with a potentiometer.

FUEL LEVEL

Disconnect the 4-circuit connector housing of the Info Center gauge.

Using an appropriate terminal remover, remove the PINK wire from the tab housing.

Reconnect the connector housing.

Disconnect the 2-circuit connector housing which contains a PURPLE and BLACK wires.

Remove the BLACK wire from the receptacle housing.

Reconnect the connector housing.

Connect potentiometer test probes to the PINK and BLACK wires.

Adjust potentiometer to the resistance values as per following chart to test the accuracy of the gauge.

NOTE : The gauge must be activated to obtain a reading.

Section 01 ELECTRICAL SYSTEM

Sub-Section 01 (INSTRUMENTS AND ACCESSORIES)


RESISTANCE (Ω)	FUEL LEVEL LCD GRAPHIC	LOW FUEL LEVEL RED LIGHT
0 + 2.2	FULL	OFF
17.8 \pm 2.2	7/8	OFF
27.8 \pm 2.2	3/4	OFF
37.8 \pm 2.2	5/8	OFF
47.8 \pm 2.2	1/2	OFF
57.8 \pm 2.2	3/8	OFF
67.8 \pm 2.2	1/4	OFF
77.8 \pm 2.2	1/8	ON
89.0 \pm 2.2	EMPTY	ON

VTS

Disconnect the 2-circuit connector housing of the Info Center gauge.

Connect potentiometer test probes to the BROWN / WHITE and BROWN / BLACK wires.

Adjust potentiometer to the resistance values as per following chart to test the accuracy of the gauge.

 **NOTE** : The gauge must be activated to obtain a reading.


RESISTANCE (Ω)	VTS LEVEL LCD GRAPHIC
167.3 \pm 2.2	11/11 (UP)
153.0 \pm 2.2	10/11
138.7 \pm 2.2	9/11
124.4 \pm 2.2	8/11
110.1 \pm 2.2	7/11
95.8 \pm 2.2	6/11
81.5 \pm 2.2	5/11
67.2 \pm 2.2	4/11
52.9 \pm 2.2	3/11
38.6 \pm 2.2	2/11
24.3 \pm 2.2	1/11 (DOWN)

LAKE TEMPERATURE

Disconnect the 2-circuit connector housing of the Info Center gauge which contains a BLACK / ORANGE and TAN / ORANGE wires.

Connect potentiometer test probes to the BLACK / ORANGE and TAN / ORANGE wires.

Adjust potentiometer to the resistance values as per following chart to test the accuracy of the gauge.

 **NOTE** : The gauge must be activated to obtain a reading.

RESISTANCE (Ω)	DISPLAY TEMPERATURE ($^{\circ}$ C)
25407.3	5 \pm 2
19911.1	10 \pm 2
15718.0	15 \pm 2
12495.0	20 \pm 2
10000.0	25 \pm 2
8054.9	30 \pm 2
6528.3	35 \pm 2

RESISTANCE (Ω)	DISPLAY TEMPERATURE ($^{\circ}$ F)
22799.0	45 \pm 4
17262.0	55 \pm 4
13470.0	65 \pm 4
10496.3	75 \pm 4
8264.4	85 \pm 4
6528.3	95 \pm 4

EXTERIOR TEMPERATURE

Disconnect the 2-circuit connector housing of the Info Center gauge which contains a TAN / WHITE and BLACK / WHITE wires.

Connect potentiometer test probes to the TAN / WHITE and BLACK / WHITE wires.

Adjust potentiometer to the resistance values as per following chart to test the accuracy of the gauge.

Section 01 ELECTRICAL SYSTEM
Sub-Section 01 (INSTRUMENTS AND ACCESSORIES)

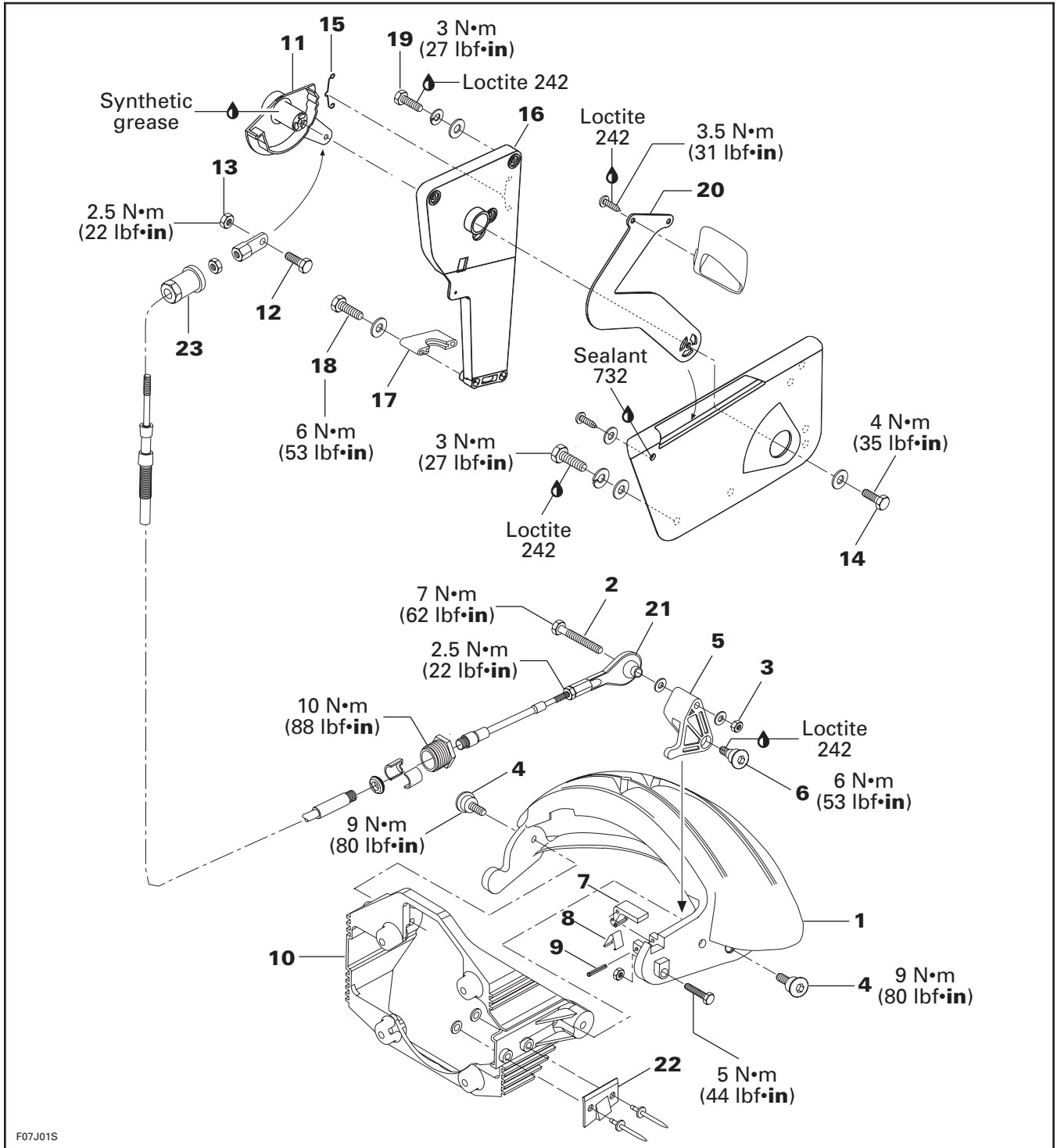
○ NOTE : The gauge must be activated to obtain a reading.

RESISTANCE (Ω)	DISPLAY TEMPERATURE ($^{\circ}\text{C}$)
25590.1	5 ± 2
20005.8	10 ± 2
15761.7	15 ± 2
12510.2	20 ± 2
10000.0	25 ± 2
8047.8	30 ± 2
6518.7	35 ± 2

RESISTANCE (Ω)	DISPLAY TEMPERATURE ($^{\circ}\text{F}$)
22919.8	45 ± 4
17491.7	55 ± 4
13487.5	65 ± 4
10501.5	75 ± 4
8252.0	85 ± 4
6518.7	95 ± 4

REVERSE SYSTEM

GTX Model



F07J01S

Section 02 PROPULSION SYSTEM

Sub-Section 01 (REVERSE SYSTEM)

DISASSEMBLY

1, Deflector

Put shift lever in reverse position.

Disconnect reverse cable by loosening bolt no. 2 and lock nut no. 3 from cable lever.

Loosen 2 Allen screws no. 4 and remove deflector.

5, Cable Lever

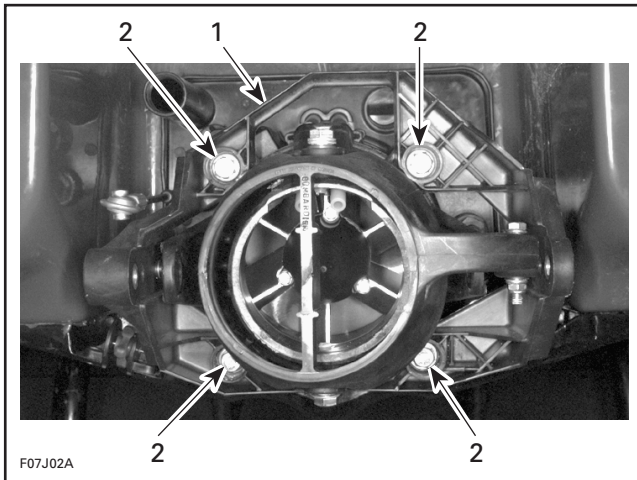
Loosen Allen screw no. 6 and remove cable lever.

7, 8, Pawl Lock and Spring

Remove roll pin no. 9.

10, Deflector Support

Loosen 4 bolts which retain deflector support to venturi.

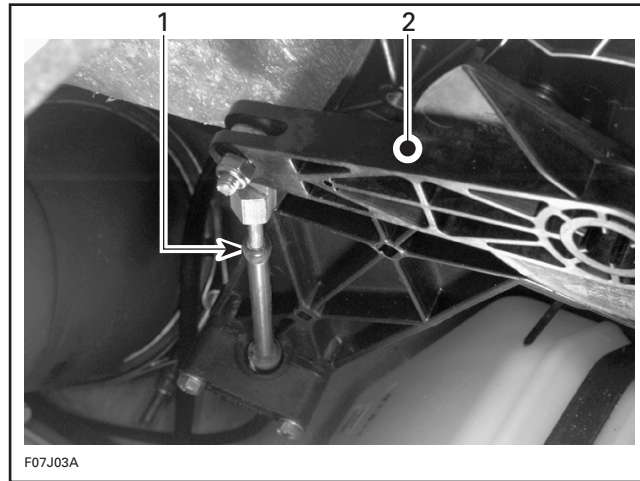


1. Support
2. Bolt

11, Interior Lever

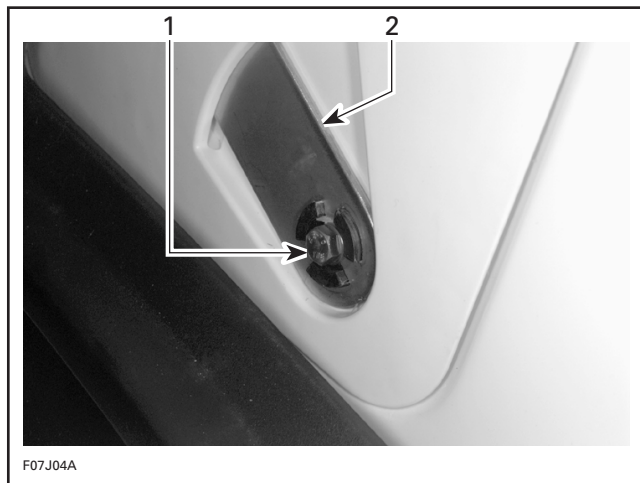
Remove glove box.

Disconnect reverse cable by loosening bolt no. 12 and lock nut no. 13.



1. Reverse cable
2. Interior lever

Loosen bolt no. 14 retaining the interior lever.



1. Bolt
2. Shift lever

Remove the interior lever and spring no. 15.

16, Reverse Cable Support

Remove retaining block no. 17 of reverse cable support by loosening bolts no. 18.

Loosen 3 bolts no. 19 retaining reverse cable support to body.

Remove reverse cable support.

INSPECTION

Visually inspect parts for wear or cracks. Replace parts as required.

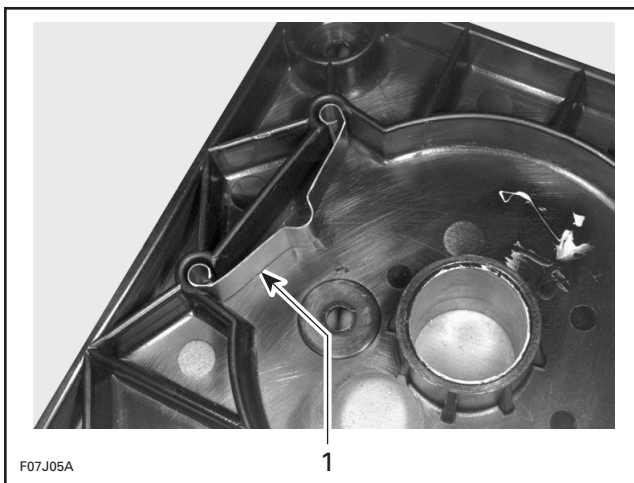
ASSEMBLY

Assembly is essentially the reverse of disassembly procedures. However, pay particular attention to the following.

▼ **CAUTION** : Apply all specified torques and service products as per main illustration at the beginning of this sub-section.

15, Spring

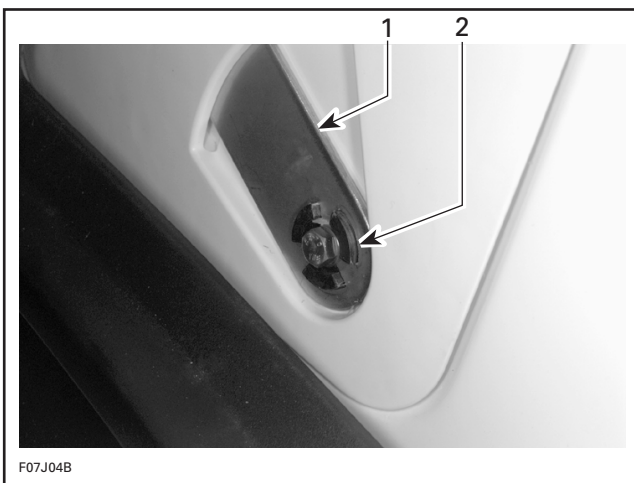
Make sure to properly installed spring in reverse cable support as per following illustration.



1. Spring

11, 20, Interior Lever and Shift Lever

Install the interior lever in a rotating movement. Engage properly the interior lever tabs in the shift lever slots.

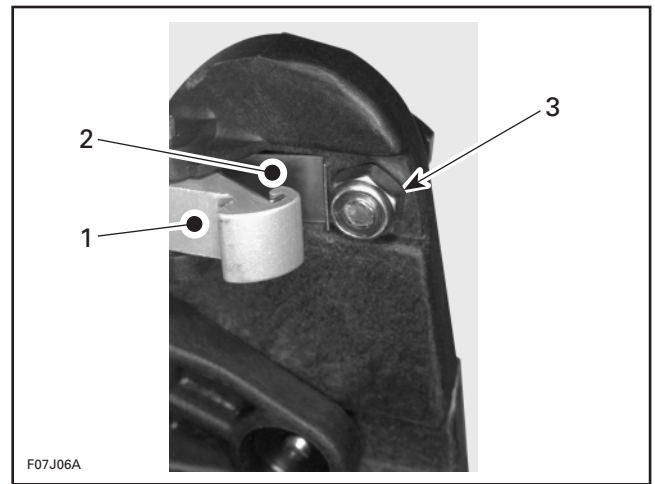


1. Shift lever
2. Interior lever tabs

Make sure the shift lever action is smooth and precise. Forward, neutral and reverse positions should be easy to select with a detent position between each.

8, Spring

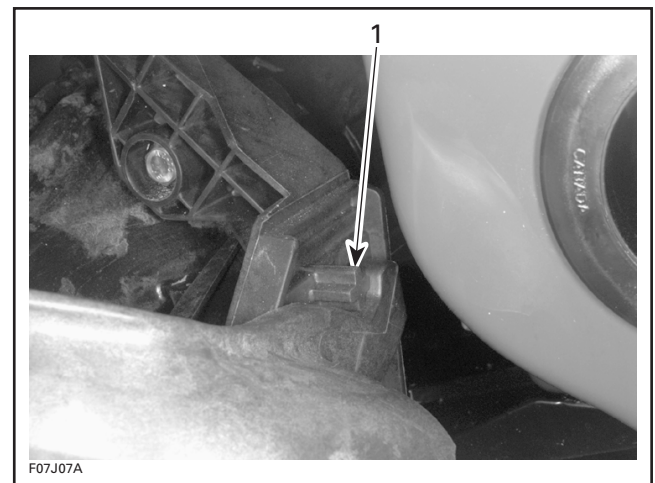
Make sure spring is properly installed. One end of the spring is hooked in the pawl lock and the other end is retained by the stopper lock nut.



1. Pawl lock
2. Spring
3. Stopper lock nut

1, Deflector

When installing the deflector, pay attention to position its lever behind the deflector support stopper.



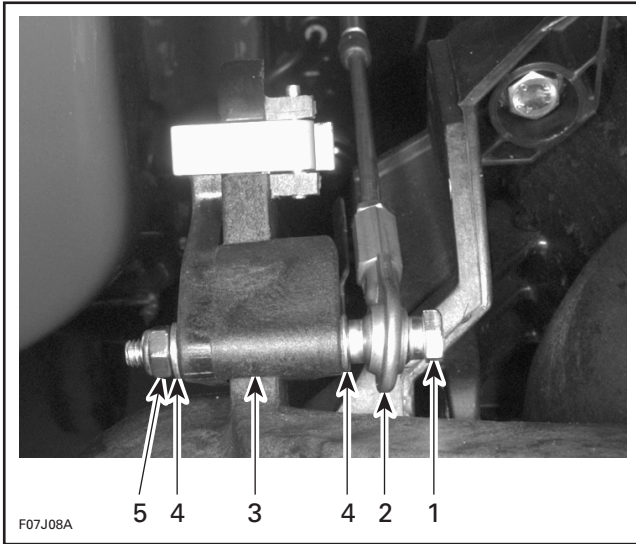
1. Stopper

21, Reverse Cable

Install reverse cable to cable lever as per following illustration.

Section 02 PROPULSION SYSTEM

Sub-Section 01 (REVERSE SYSTEM)



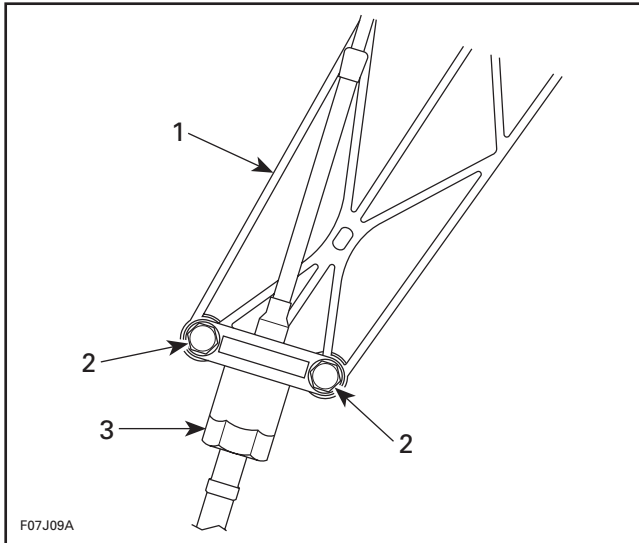
1. Bolt
2. Ball joint
3. Cable lever
4. Flat washer
5. Lock nut

ADJUSTMENT

Put shift lever in forward position.

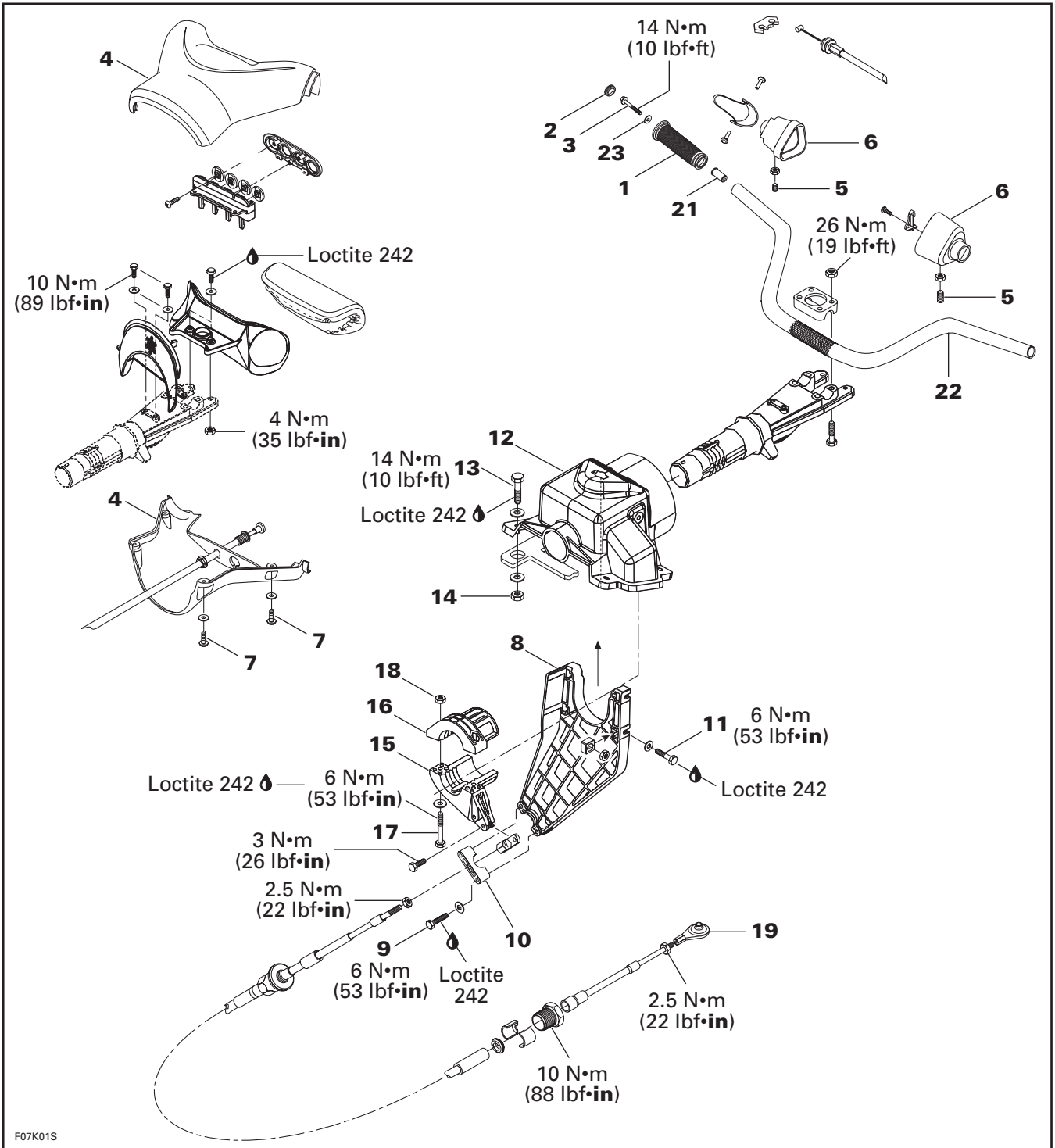
The pawl lock **no. 7** should be engaged in the anchor **no. 22**.

If not, adjust reverse cable. Loosen 2 bolts **no. 18** at reverse cable support **no. 16**. Turn adjustment nut **no. 23** as required.



1. Reverse cable support
2. Loosen bolts
3. Adjustment nut

GSX AND GTX MODELS



F07K01S

Section 03 STEERING SYSTEM

Sub-Section 01 (GSX AND GTX MODELS)

DISASSEMBLY

1, Grip

To remove grip, pull out cap no. 2 and remove screw no. 3.

Pull out grip.

4, Cover

Remove grips no. 1.

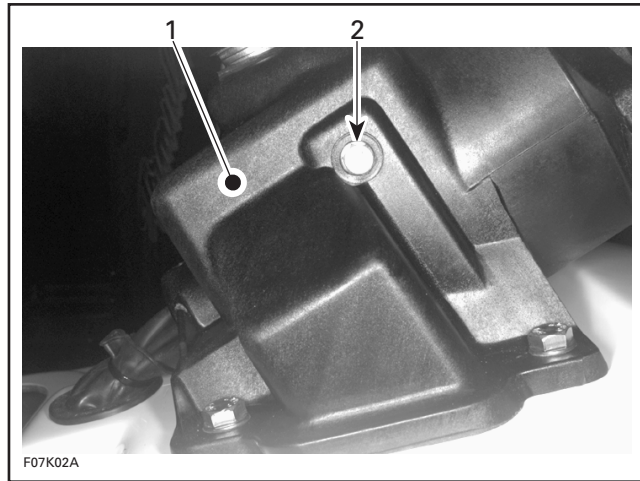
Loosen set screws no. 5 of handlebar housings no. 6.

Remove 4 screws no. 7.

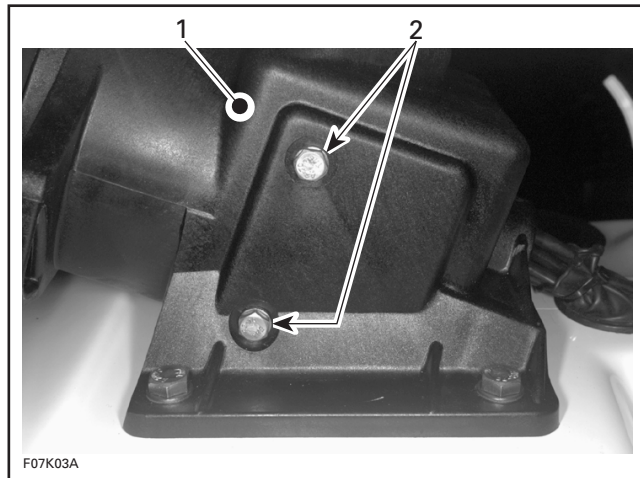
Remove cover.

8, Cable Support

Loosen bolts no. 9 and remove retaining block no. 10.



1. Steering support
2. Bolt

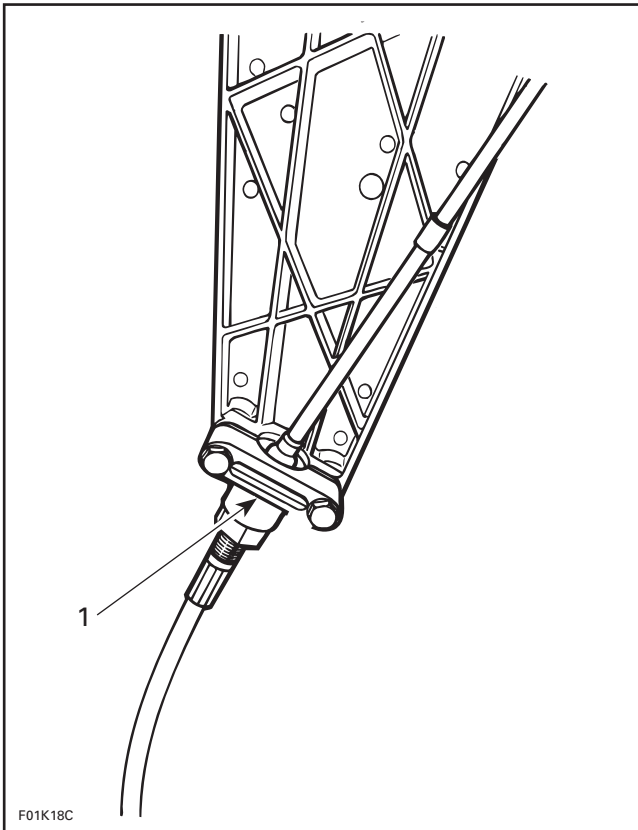


1. Steering support
2. Bolts

Remove support.

12, Steering Support

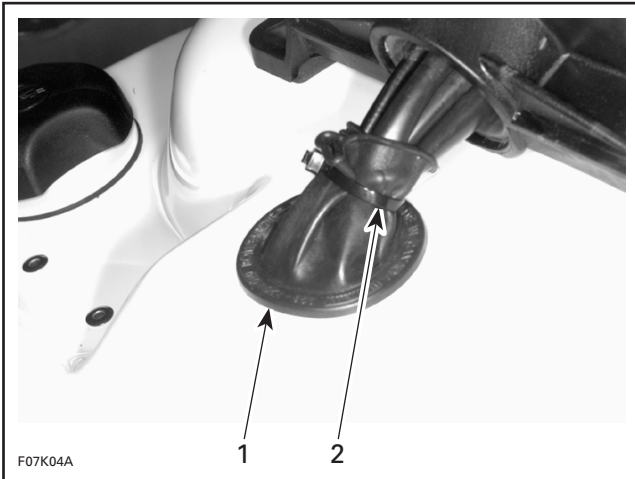
Cut tie rap securing wiring harness boot.



1. Retaining block

Loosen bolts no. 11 each side of steering support no. 12.

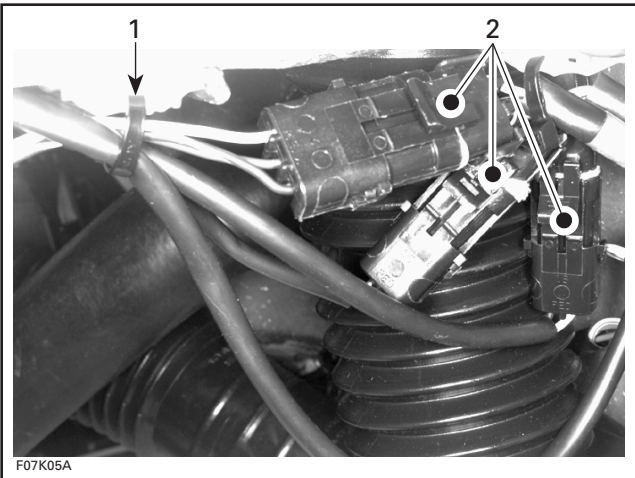
Section 03 STEERING SYSTEM
 Sub-Section 01 (GSX AND GTX MODELS)



- 1. Boot
- 2. Tie rap

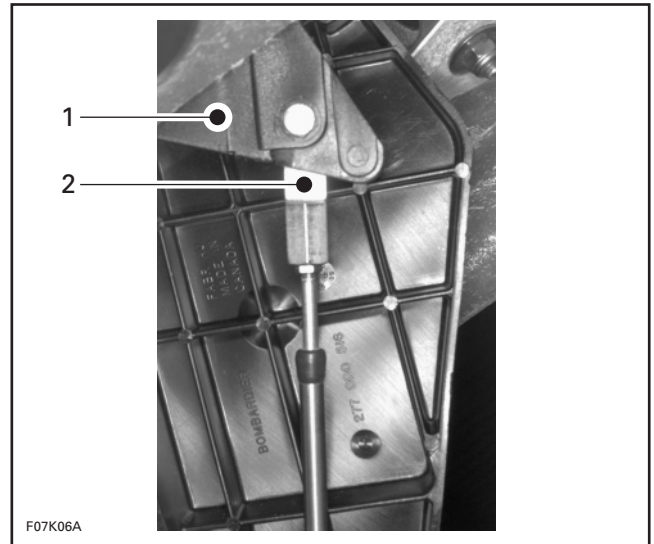
Disconnect the throttle and choke cables from carburetor levers.

Disconnect the wiring harnesses leading out of steering stem and cut tie rap.



- 1. Tie rap
- 2. Connectors

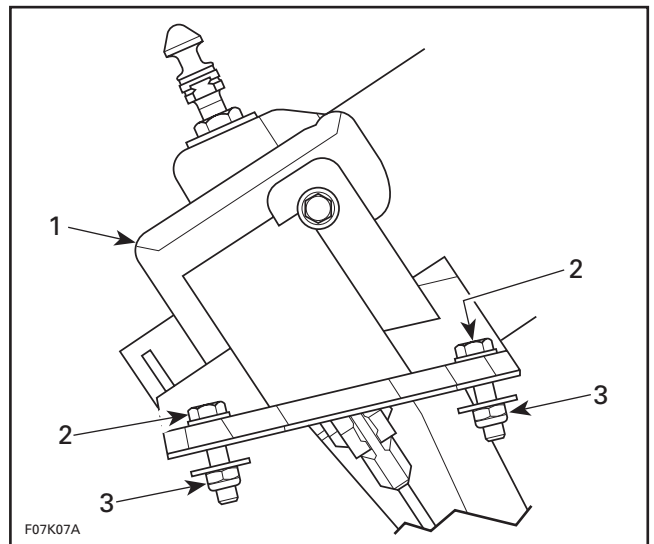
Disconnect the steering cable from the steering stem arm **no. 15**.



- 1. Steering stem arm
- 2. Steering cable

Loosen bolts **no. 11** retaining cable support to steering support (refer to cable support **no. 8**).

Loosen bolts **no. 13** and lock nuts **no. 14**.



- 1. Steering support
- 2. Bolt
- 3. Lock nut

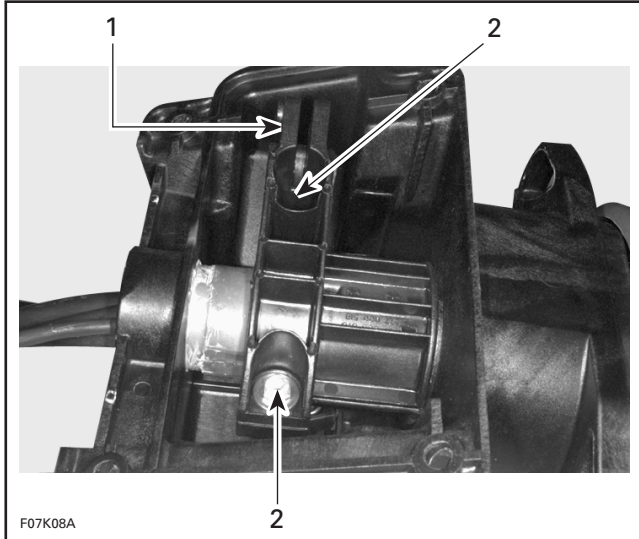
Remove steering support with handlebar, wiring harnesses and cables.

Section 03 STEERING SYSTEM

Sub-Section 01 (GSX AND GTX MODELS)

15, 16, Steering Stem Arm and Support

Loosen bolts no. 17 retaining steering stem arm to support.



1. Steering stem arm
2. Bolt

Remove steering stem arm and support.

ASSEMBLY

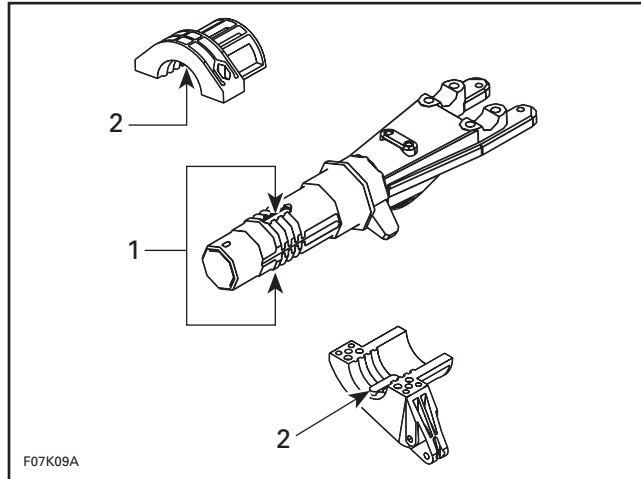
Assembly is essentially the reverse of disassembly procedures. However, pay particular attention to the following.

▼ **CAUTION** : Apply all specified torques and service products as per main illustration at the beginning of this sub-section.

15, 16, Steering Stem Arm and Support

Position steering stem arm and support onto steering stem.

◆ **WARNING** : Make sure the integrated flat keys of the steering stem arm and support are properly seated in steering stem keyways. Steering stem arm must be locked in place before torquing the bolts.



1. Keyway
2. Integrated flat key

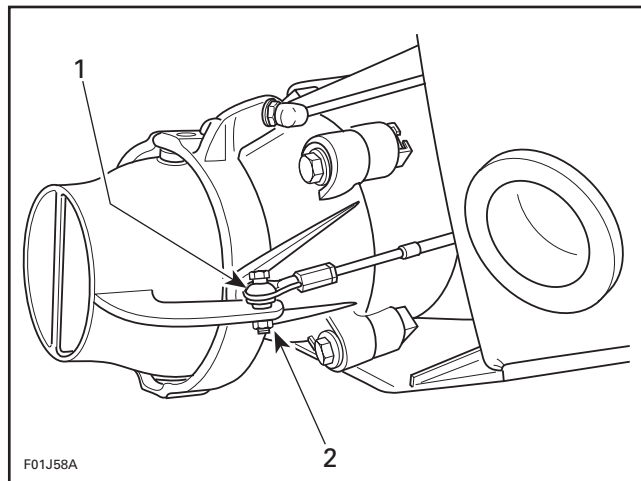
Replace lock nuts no. 18 by new ones.

Torque bolts no. 17 of steering stem arm to 6 N•m (53 lbf•in).

19, Ball joint

Secure the steering cable ball joint to the nozzle as per following illustrations.

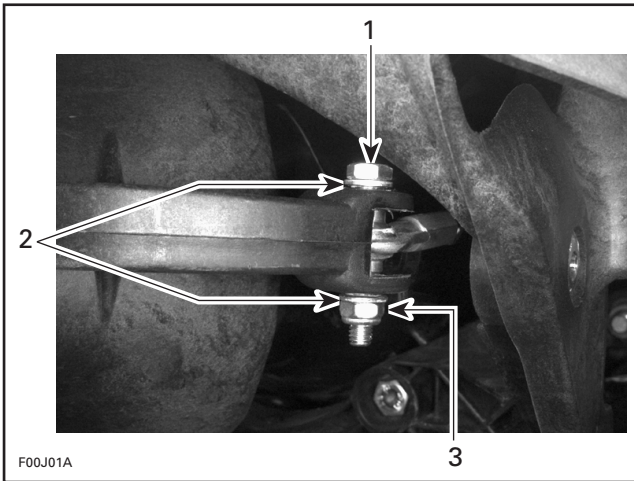
GSX Model



TYPICAL

1. Ball joint on top of steering arm
2. Torque nut to 7 N•m (62 lbf•in)

GTX Model

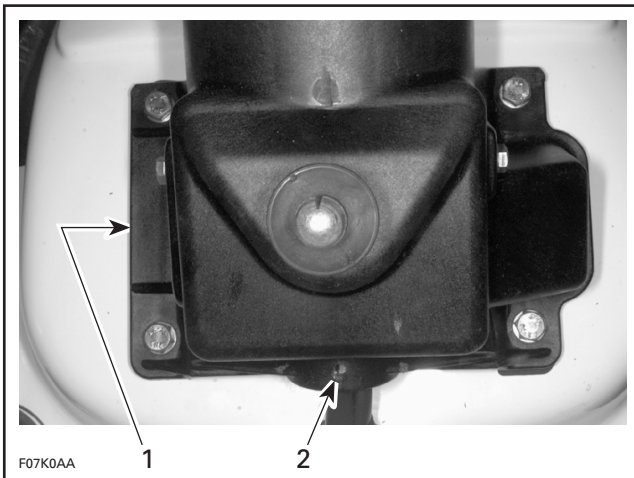


TYPICAL

- 1. Bolt
- 2. Flat washers
- 3. Lock nut. Torque to 2 N•m (18 lbf•in)

ALIGNMENT

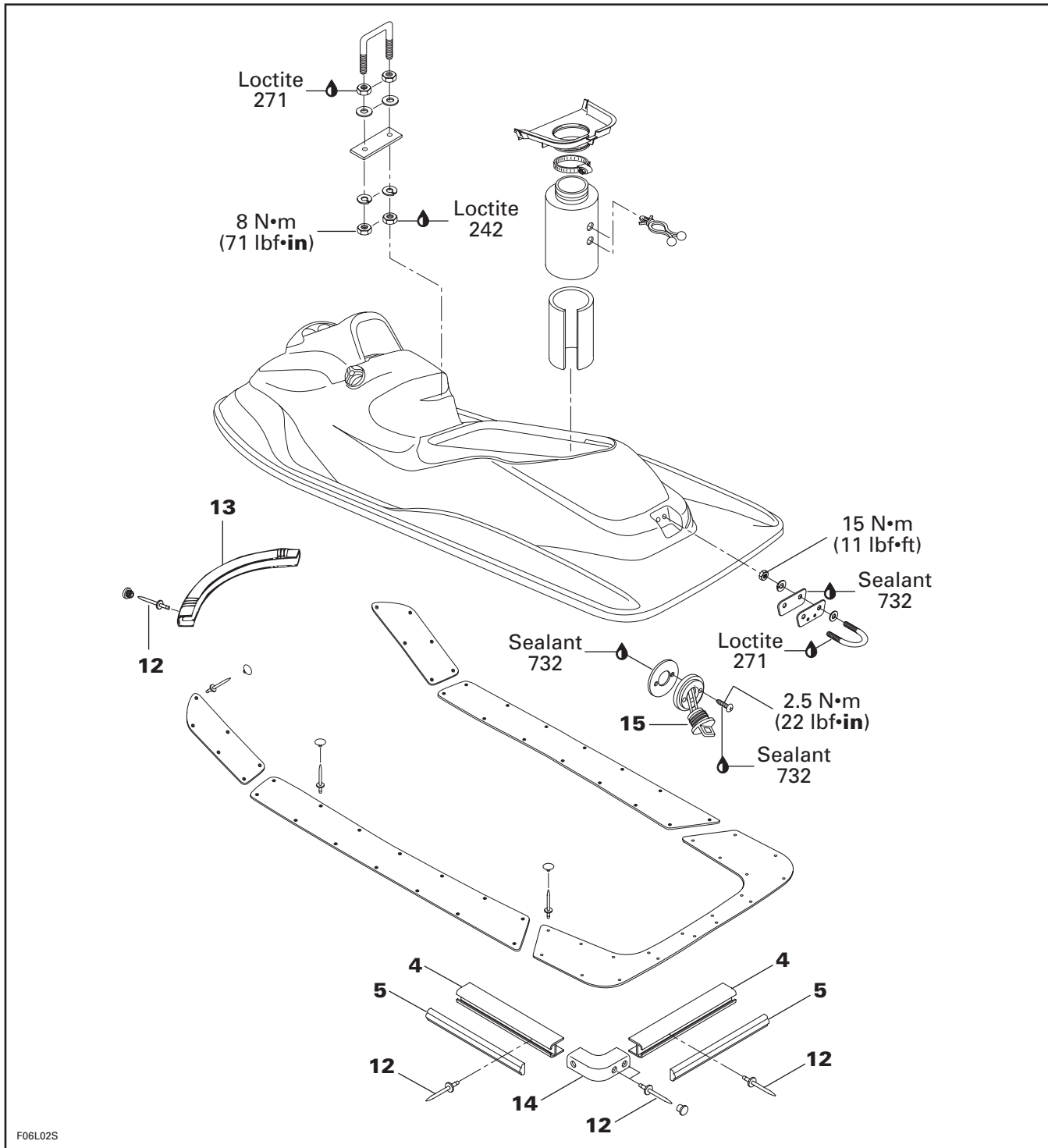
To position handlebar in straight ahead position, insert a pin in the steering support and turn the handlebar until the pin locks the steering stem.



- 1. Steering support
- 2. Hole

Alignment is performed like other models.

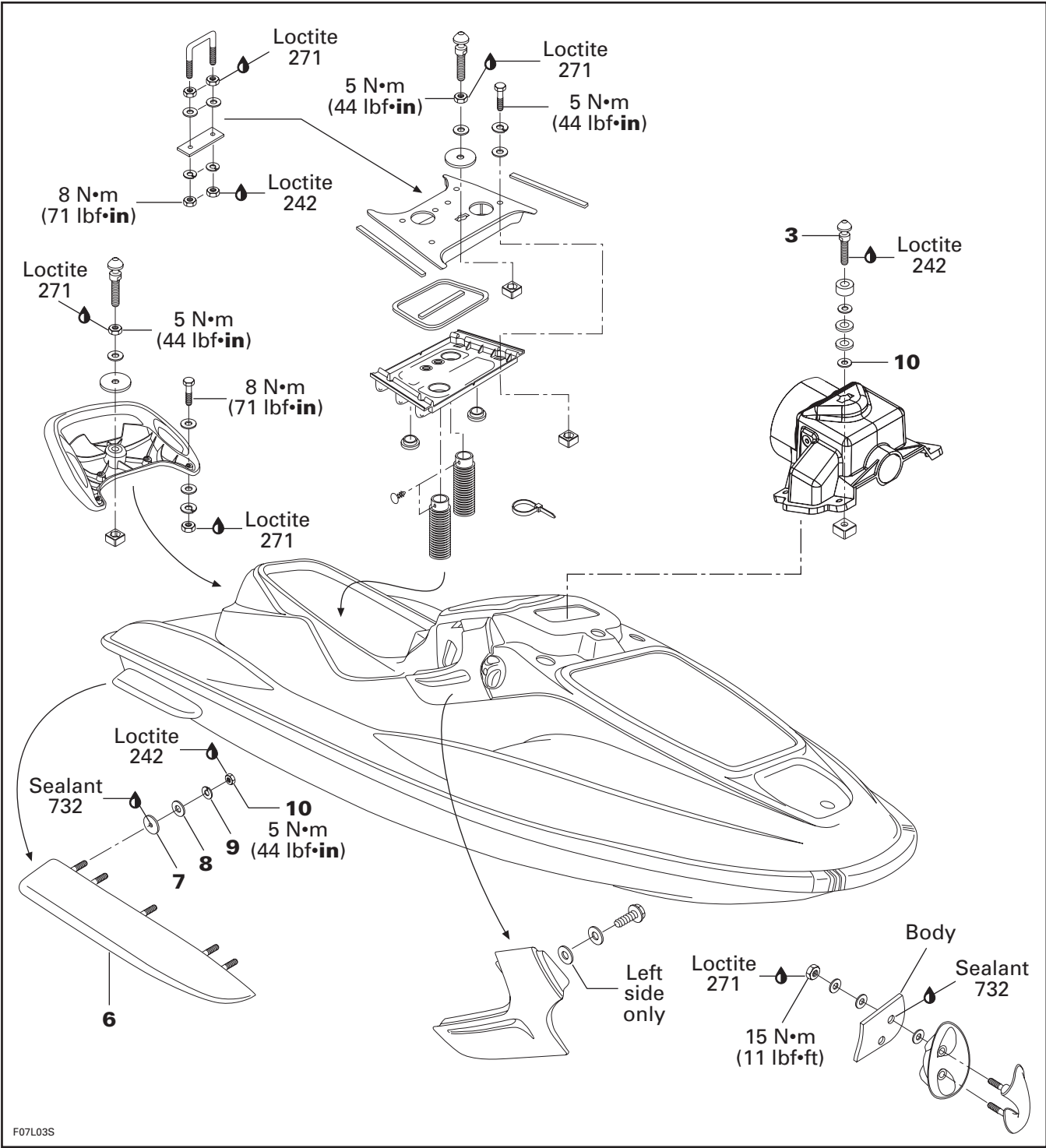
Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)



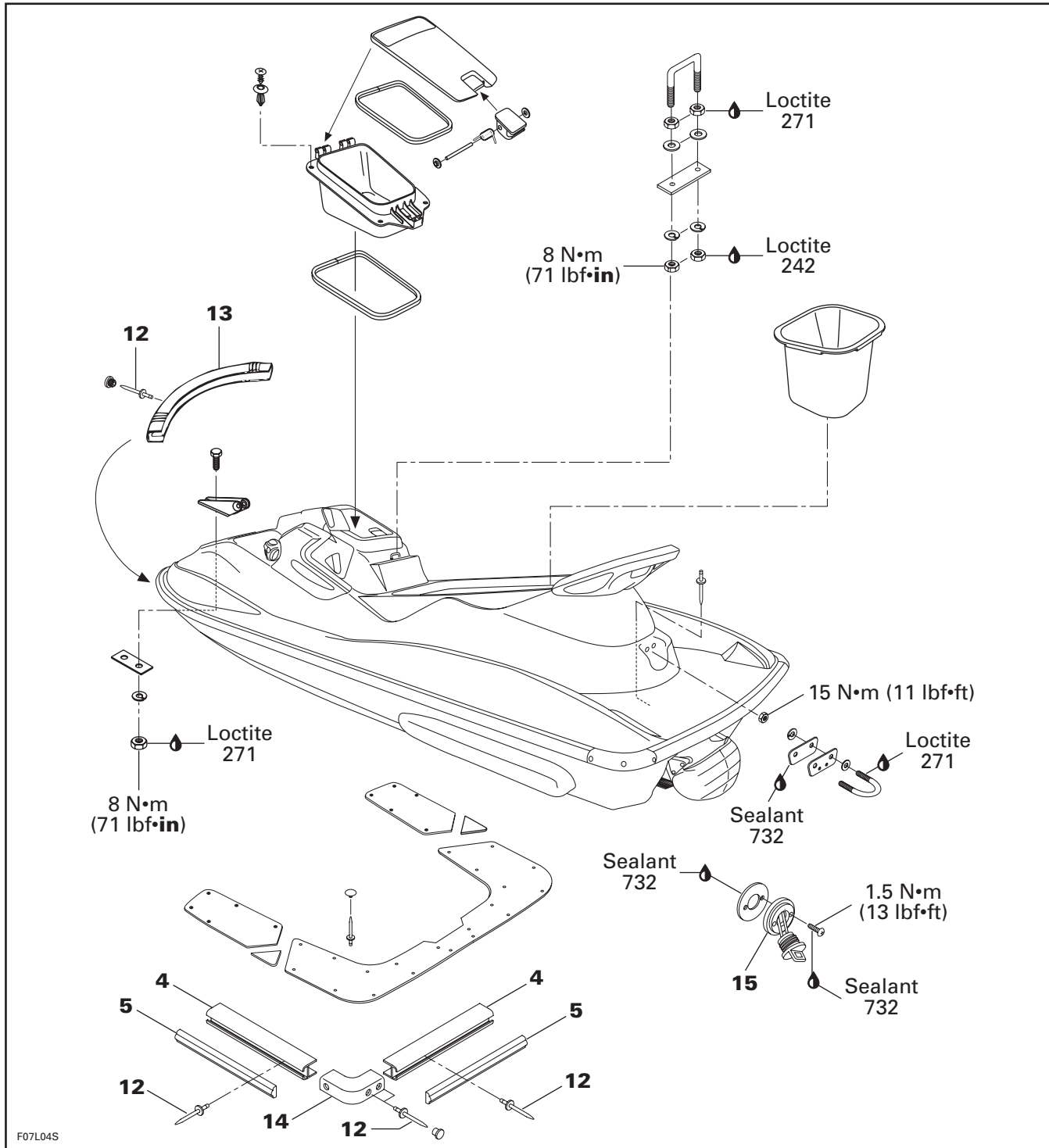
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Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)

GTX Model

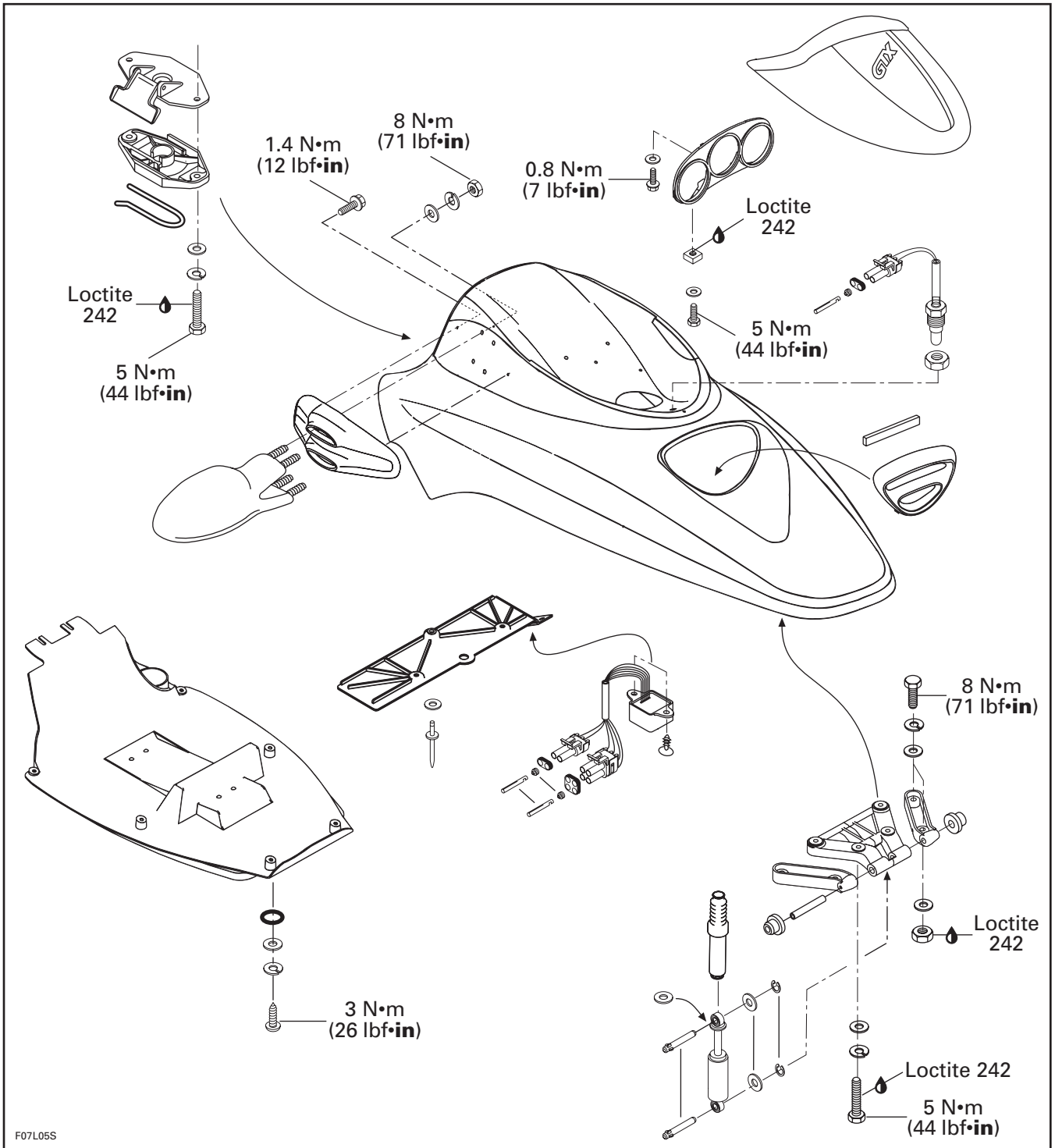


Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)



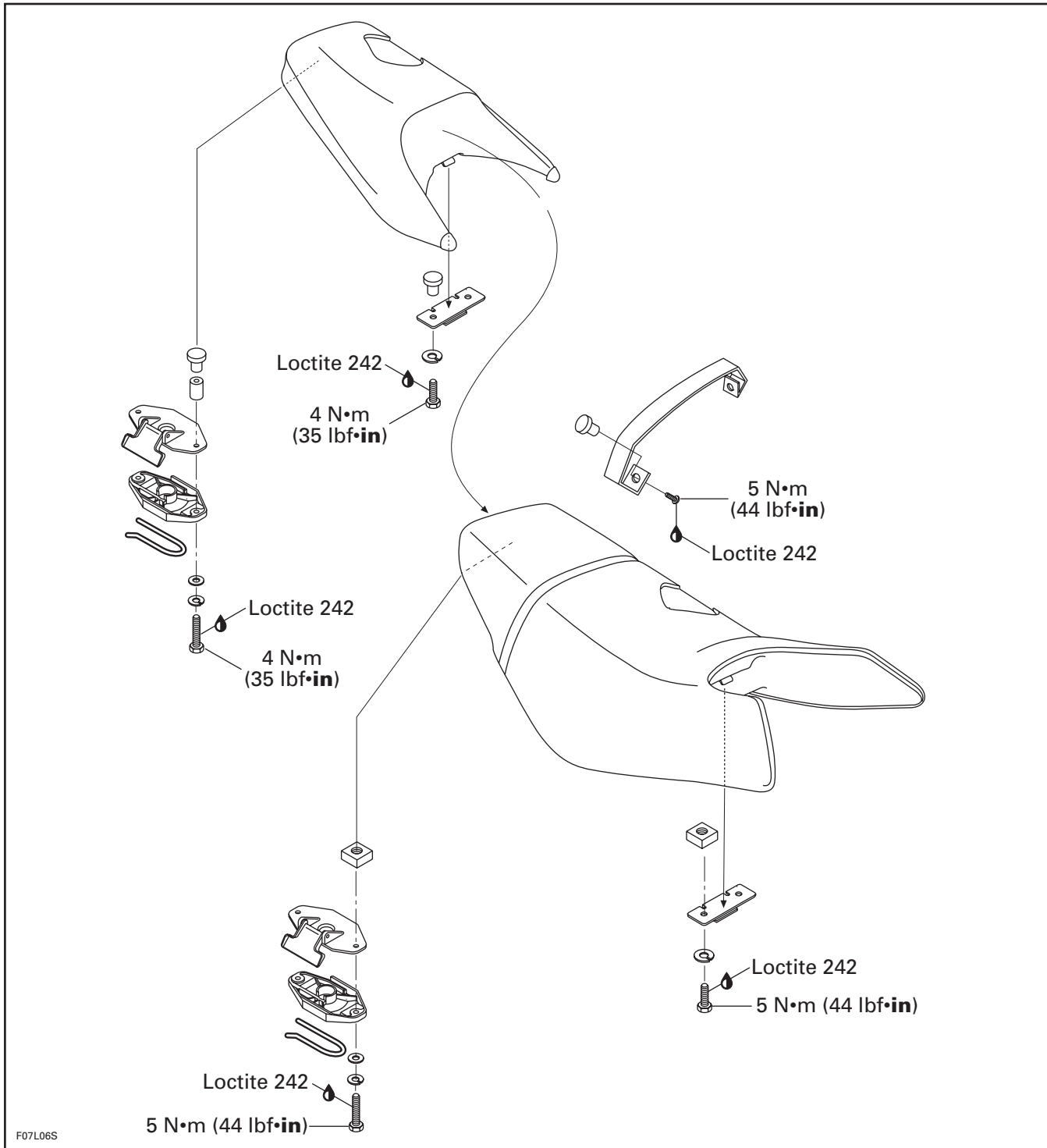
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Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)



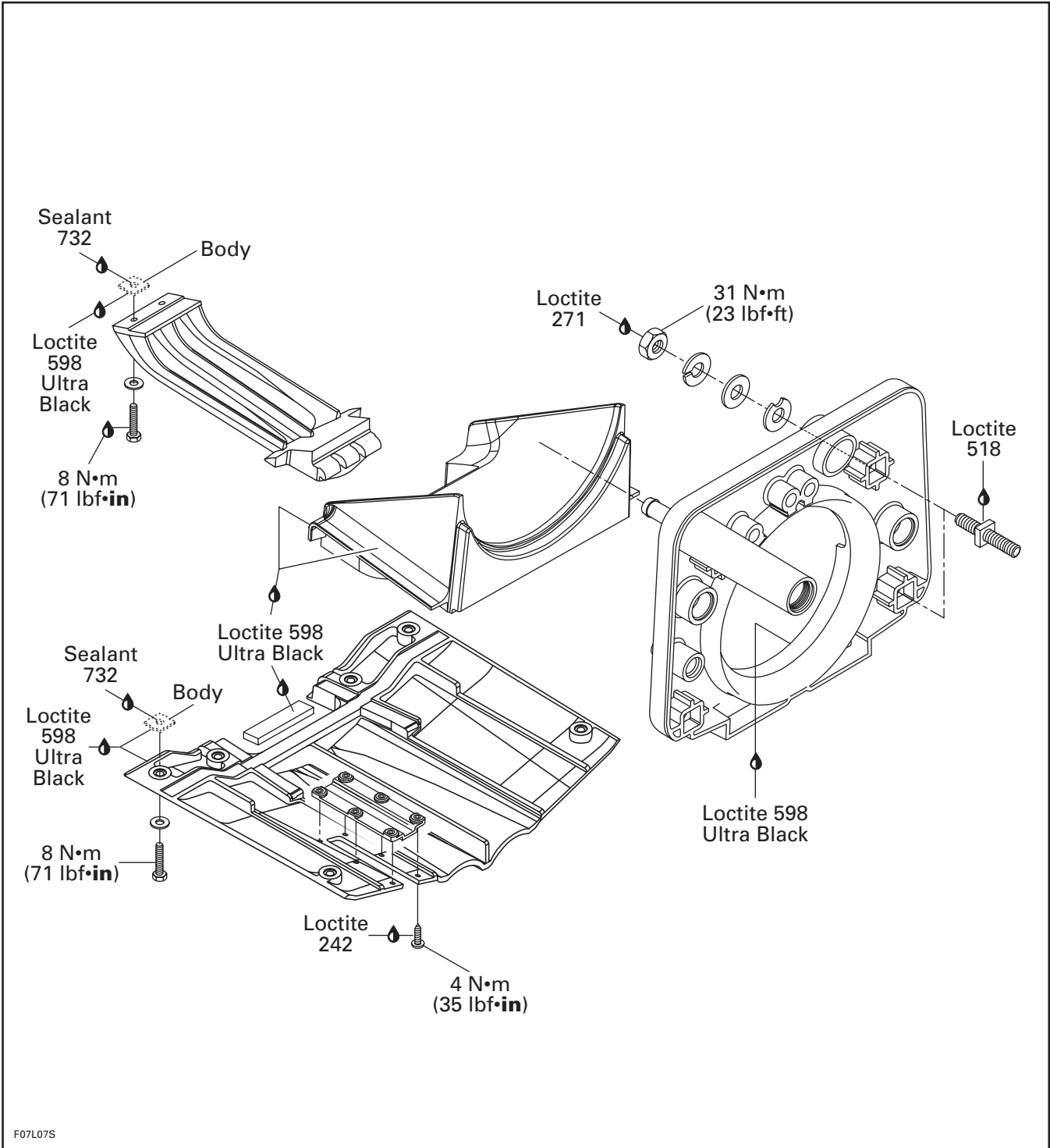
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Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)



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Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)

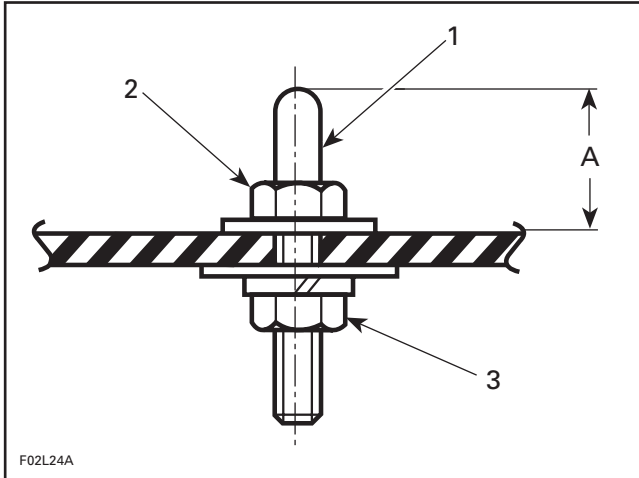


Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)

ADJUSTMENT

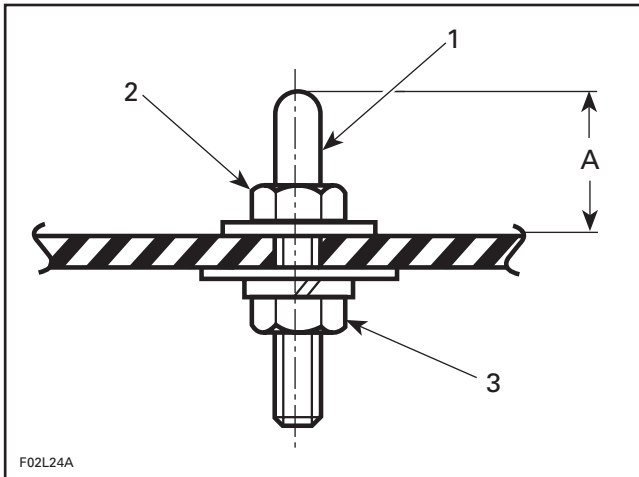
1, Front Hook

Adjust front hook as per following specifications :



GSX MODEL

1. Front hook
 2. Adjustment nut (apply Loctite 271)
 3. Nut (apply Loctite 242 and torque to $8\text{ N}\cdot\text{m}$ ($71\text{ lbf}\cdot\text{in}$))
- A. $27 \pm 1\text{ mm}$ ($1-1/16 \pm 3/64\text{ in}$)

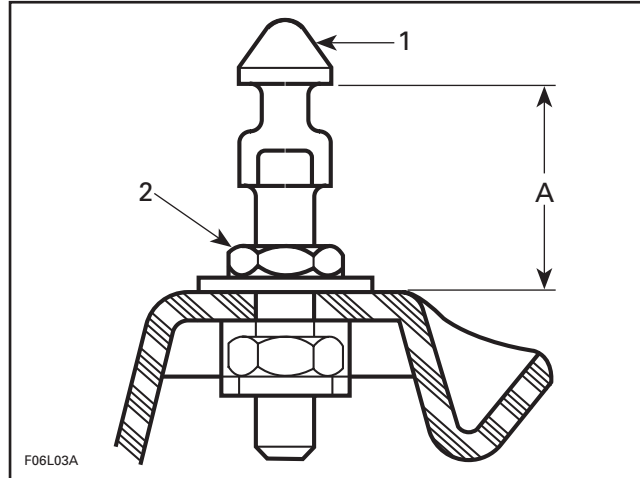


GTX MODEL - FRONT AND REAR SEATS

1. Front hook
 2. Adjustment nut (apply Loctite 271)
 3. Nut (apply Loctite 242 and torque to $8\text{ N}\cdot\text{m}$ ($71\text{ lbf}\cdot\text{in}$))
- A. $25 \pm 1\text{ mm}$ ($63/64 \pm 3/64\text{ in}$)

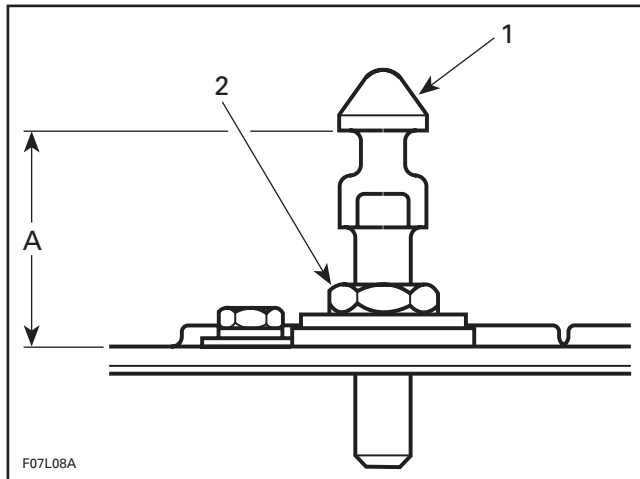
2, Lock Pin

Adjust seat lock pin as per following specifications :



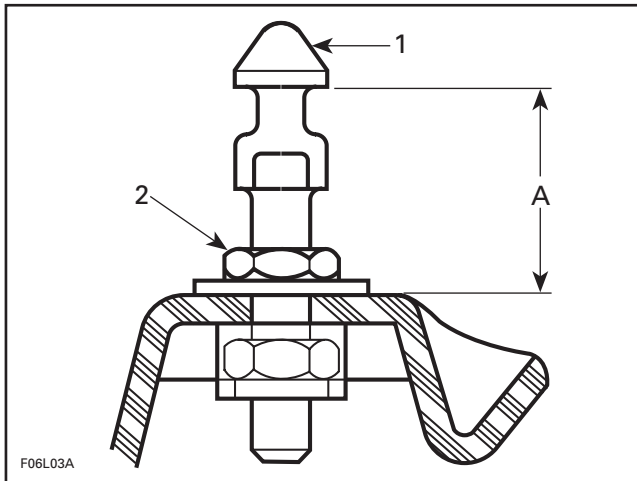
GSX MODEL

1. Lock pin
 2. Adjustment nut (apply Loctite 271)
- A. $33.5 \pm 1\text{ mm}$ ($1-5/16 \pm 3/64\text{ in}$)



GTX MODEL - FRONT SEAT

1. Lock pin
 2. Adjustment nut (apply Loctite 271)
- A. $39 \pm 1\text{ mm}$ ($1-35/64 \pm 3/64\text{ in}$)



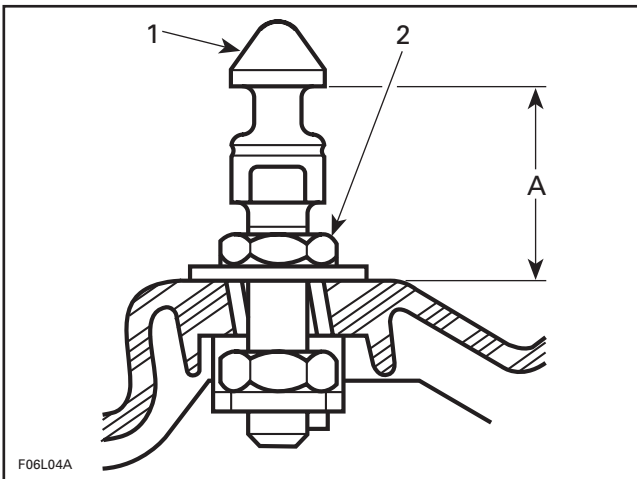
GTX MODEL - REAR SEAT

- 1. Lock pin
- 2. Adjustment nut (apply Loctite 271)
- A. $33.5 \pm 1 \text{ mm}$ ($1-5/16 \pm 3/64 \text{ in}$)

3, Lock Pin

Adjust storage cover lock pin as per following specifications :

GSX MODEL



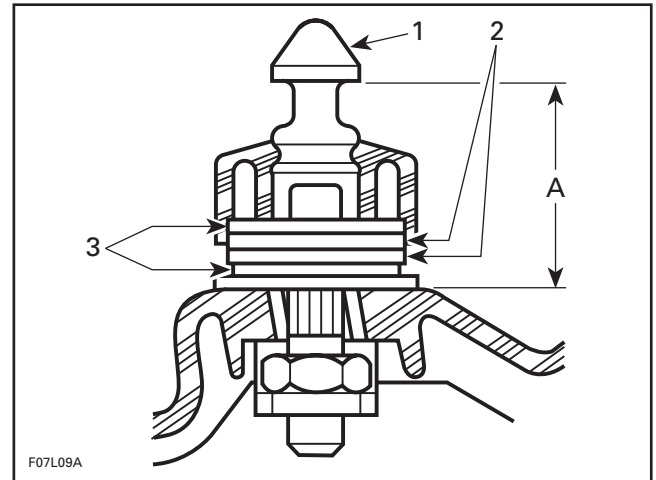
- 1. Lock pin (apply Loctite 271)
- 2. Adjustment nut
- A. $34 \pm 1 \text{ mm}$ ($1-11/32 \pm 3/64 \text{ in}$)

GTX MODEL

This watercraft model has a floating type storage cover lock pin. You will notice that when pressing on the lock pin, it has a certain amount of longitudinal play. This longitudinal play must be retained.

If an adjustment is required, lock pin should be tightened until there is no vertical play, without eliminating the longitudinal play.

The flat washer no. 10 should be installed with its sharp edge opposite to the steering support.



- 1. Lock pin (apply Loctite 242)
- 2. Rubber washer
- 3. Flat washers
- A. $39.2 \pm 1 \text{ mm}$ ($1-35/64 \pm 3/64 \text{ in}$)

REMOVAL

4, Inlet Grate

Loosen screws no. 5 and remove inlet grate.

NOTE : An impact screwdriver should be used to loosen tight screws.

6, Riding Plate

Remove the speed sensor from the riding plate (GTX model).

Loosen screws no. 7.

Pry out riding plate.

NOTE : If jet pump is removed, a low height hydraulic bottle jack and two steel plates can be used to pry out the riding plate.

8, Support

Remove jet pump.

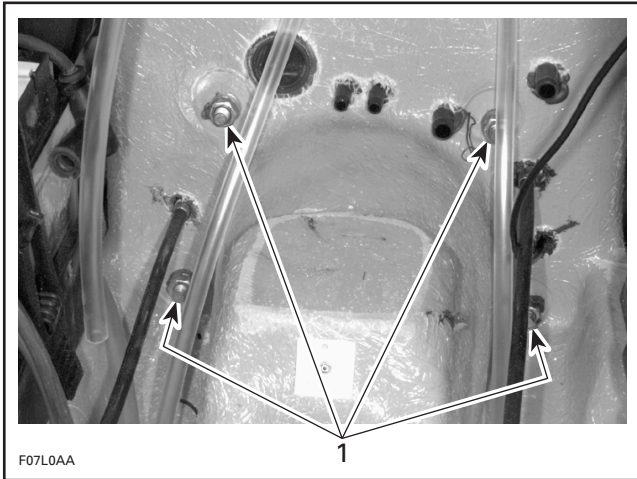
Remove ball joint, boot, nut, half rings and O-rings from steering cable and reverse cable (GTX model).

Remove boot and nut from VTS sliding shaft (GSX model).

Disconnect water supply hose, water return hose and bailer hoses.

Remove nuts, lock washers and flat washers retaining jet pump support.

Section 04 HULL / BODY
Sub-Section 01 (COMPONENTS)



1. Nuts

Using a heat gun, heat jet pump support until it is possible to pull it.

NOTE : Shims may have been installed between support and body. Do not remove these shims, otherwise jet pump alignment will be altered.

9, Shoe

Using a heat gun, heat shoe and pry it using a piece of wood.

INSTALLATION

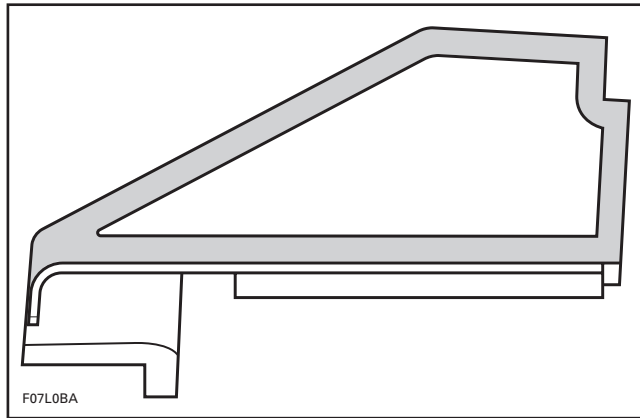
Installation is essentially the reverse of removal procedures. However, pay particular attention to the following.

Follow the torquing sequence for the support no. 8 and riding plate no. 6 as shown in the next illustrations.

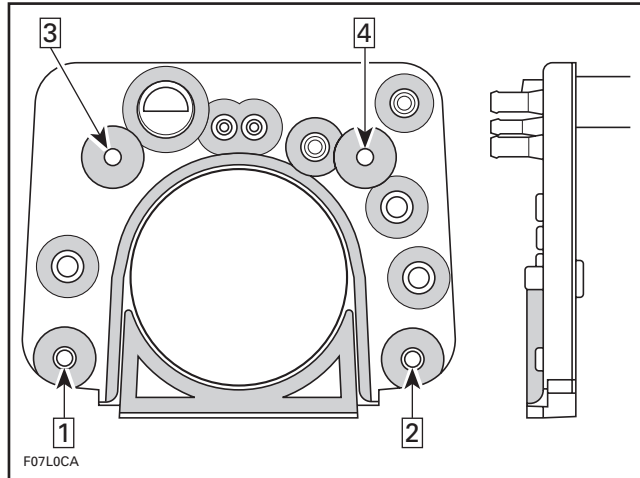
CAUTION : Apply all specified torques and service products as per main illustrations at the beginning of this sub-section.

Apply Loctite 598 Ultra Black on the following components as indicated by the shaded area in the next illustrations. The seam of sealant should be 10 mm (25/64 in) wide and 4 mm (5/32 in) high.

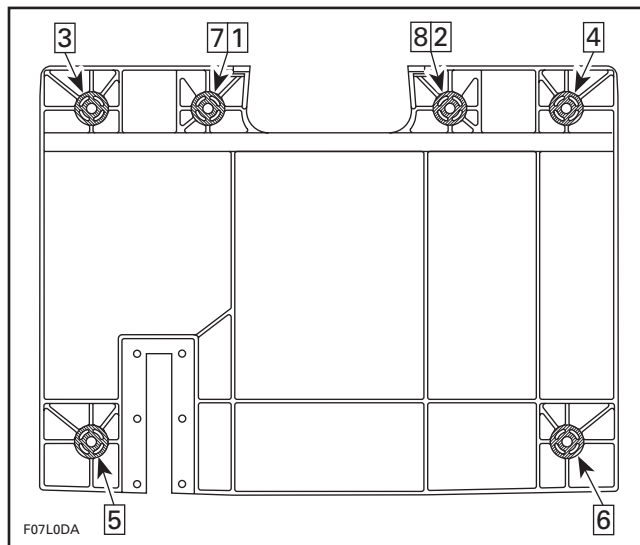
9, Shoe



8, Support



6, Riding Plate



GSX AND GTX MODELS

ENGINE		GSX (5620)	GTX (5640)
Engine type		Bombardier-Rotax 787	
Induction type		Rotary valve	
Exhaust system	Type	Water cooled, water injected with regulator	
	Water injection fitting (head)	3.5 mm (.139 in)	
	Water injection fitting (cone)	Not applicable	
	Water injection fitting (muffler)	3.5 mm (.139 in)	
Exhaust valve		Rotax Adjustable Variable Exhaust (RAVE)	
Starting system		Electric start	
Lubrication	Fuel / oil mixture	VROI (Variable Rate Oil Injection)	
	Oil injection pump	Direct driven	
	Oil type	Formula XP-S synthetic injection oil	
Number of cylinders		2	
Bore	Standard	82 mm (3.228 in)	
	First oversize	82.25 mm (3.238 in)	
	Second oversize	Not applicable	
Stroke		74 mm (2.99 in)	
Displacement		781.6 cm ³ (47.7 in ³)	
Corrected compression ratio		5.9 : 1	
Cylinder head warpage (maximum)		0.05 mm (.002 in)	
Piston ring type and quantity		1 Semi-trapez – 1 Rectangular	
Ring end gap	New	0.25 - 0.40 mm (.010 - .016 in)	
	Wear limit	1.00 mm (.039 in)	
Ring / piston groove	New	0.025 - 0.070 mm (.001 - .003 in)	
	Wear limit	0.2 mm (.008 in)	
Piston / cylinder wall clearance	New	0.060 - 0.108 mm (.0024 - .0043 in)	
	Wear limit	0.2 mm (.008 in)	
Cylinder taper (maximum)		0.100 mm (.004 in)	
Cylinder out of round (maximum)		0.080 mm (.003 in)	
Connecting rod big end axial play	New	0.39 - 0.74 mm (.015 - .029 in)	
	Wear limit	1.2 mm (.047 in)	
Crankshaft deflection		MAG side : 0.05 mm (.002 in) ; PTO side : 0.03 mm (.001 in)	
Rotary valve timing	Opening	146.5° ± 5 BTDC	
	Closing	64° ± 5 ATDC	
Rotary valve duration		159°	
Crankcase / rotary valve gap		0.25 - 0.35 mm (.010 - .014 in)	
Connecting rod / crankshaft pin radial clearance	New	0.023 - 0.034 mm (.0009 - .0013 in)	
	Wear limit	0.050 mm (.002 in)	
Connecting rod / piston pin radial clearance	New	0.003 - 0.012 mm (.00012 - .00047 in)	
	Wear limit	0.015 mm (.00059 in)	
ADDITIONAL INFORMATION : Squish gap : 1.2 - 1.6 mm (.047 - .063 in)			

Section 05 TECHNICAL DATA

Sub-Section 01 (GSX AND GTX MODELS)

ELECTRICAL		GSX (5620)	GTX (5640)
Magneto generator output		180 W @ 6000 RPM or 5.0 A @ 2000 RPM	
Ignition system type		DC-CDI	
Spark plug	Make and type	NGK BR8ES	
	Gap	0.5 - 0.6 mm (.020 - .024 in)	
Ignition timing (BTDC)	mm (in)	3.38 (.133)	
	Degrees	22° ± 1 @ 3500 RPM	
Generating coil		Not applicable	
Battery charging coil		0.1 - 1 Ω	
Trigger coil		190 - 300 Ω	
Ignition coil	Primary	0.33 - 0.62 Ω	
	Secondary	9 - 15 k Ω	
Engine rev limiter setting		7200 (± 50) RPM	
Battery		(Yuasa / Exide) 12 V, 19 A•h	
Fuse	Starting system	5 A	
	Charging system	15 A (2)	
	VTS system	7.5 A	Not applicable
	Holder relay	5 A	
ADDITIONAL INFORMATION :			
CARBURETION		GSX (5620)	GTX (5640)
Carburetor	Type	Mikuni BN-40I-38 (diaphragm)	
	Quantity	2	
Main jet		142.5	
Pilot jet		70	
Adjustment	Low-speed screw	1 turn ± 1/4	
	High-speed screw	0	
	Idle speed (in water)	1500 RPM	
	Idle speed (out of water)	3000 RPM	
Fuel	Type	Regular unleaded gasoline	
	Minimum octane no.	87	
Fuel return line orifice		MAG 0.8 mm (.031 in) PTO 0.8 mm (.031 in)	
ADDITIONAL INFORMATION :			
COOLING		GSX (5620)	GTX (5640)
Type		Open circuit – Direct flow from jet propulsion unit	
Thermostat		None	
Monitoring beeper setting		96-99°C (205-210°F)	
ADDITIONAL INFORMATION :			

Section 05 TECHNICAL DATA
Sub-Section 01 (GSX AND GTX MODELS)


PROPULSION		GSX (5620)	GTX (5640)
Propulsion system		Bombardier Formula Pump	
Jet pump type		Axial flow single stage	
Impeller rotation (seen from rear)		Counterclockwise	
Transmission		Direct drive	
Coupling type		Crown splines	
Oil type		SEA-DOO JET PUMP SYNTHETIC POLYOLESTER OIL 75W90 GL5	
Steering nozzle pivoting angle		26°	23°
Trim nozzle pivoting angle		± 8°	Not applicable
Minimum required water level		90 cm (35 in)	
Drive shaft deflection (maximum)		0.5 mm (.020 in)	
Impeller outside diameter		139.5 mm (5.490 in)	
Impeller / wear ring clearance	New	0.18 - 0.44 mm	(.007 - .017 in)
	Wear limit	1.02 mm	(.040 in)
Impeller shaft end play (new)		0.12 - 0.54 mm (.005 - .021 in)	
Impeller shaft side play		0.05 mm (.002 in)	
Impeller pitch / material		Progressive pitch 17°-25° / stainless steel	
ADDITIONAL INFORMATION : Do not mix different brands or oil types.			
DIMENSIONS		GSX (5620)	GTX (5640)
Number of passenger (driver incl.)		2	3
Overall length		267 cm (105 in)	312 cm (122.8 in)
Overall width		116 cm (45.7 in)	119 cm (47 in)
Overall height		99 cm (39 in)	94 cm (37 in)
Dry weight		227 kg (500 lb)	262 kg (578 lb)
Load limit (passenger and 10 kg (22 lb) luggage)		165 kg (364 lb)	243 kg (536 lb)
ADDITIONAL INFORMATION :			
CAPACITIES		GSX (5620)	GTX (5640)
Fuel tank		56.5 L (15 U.S. gal)	
Impeller shaft reservoir	Capacity	90 mL (3.0 U.S. oz)	
	Oil level height	Up to plug	
Oil injection reservoir		6 L (1.6 U.S. gal)	
ADDITIONAL INFORMATION :			

Section 05 TECHNICAL DATA

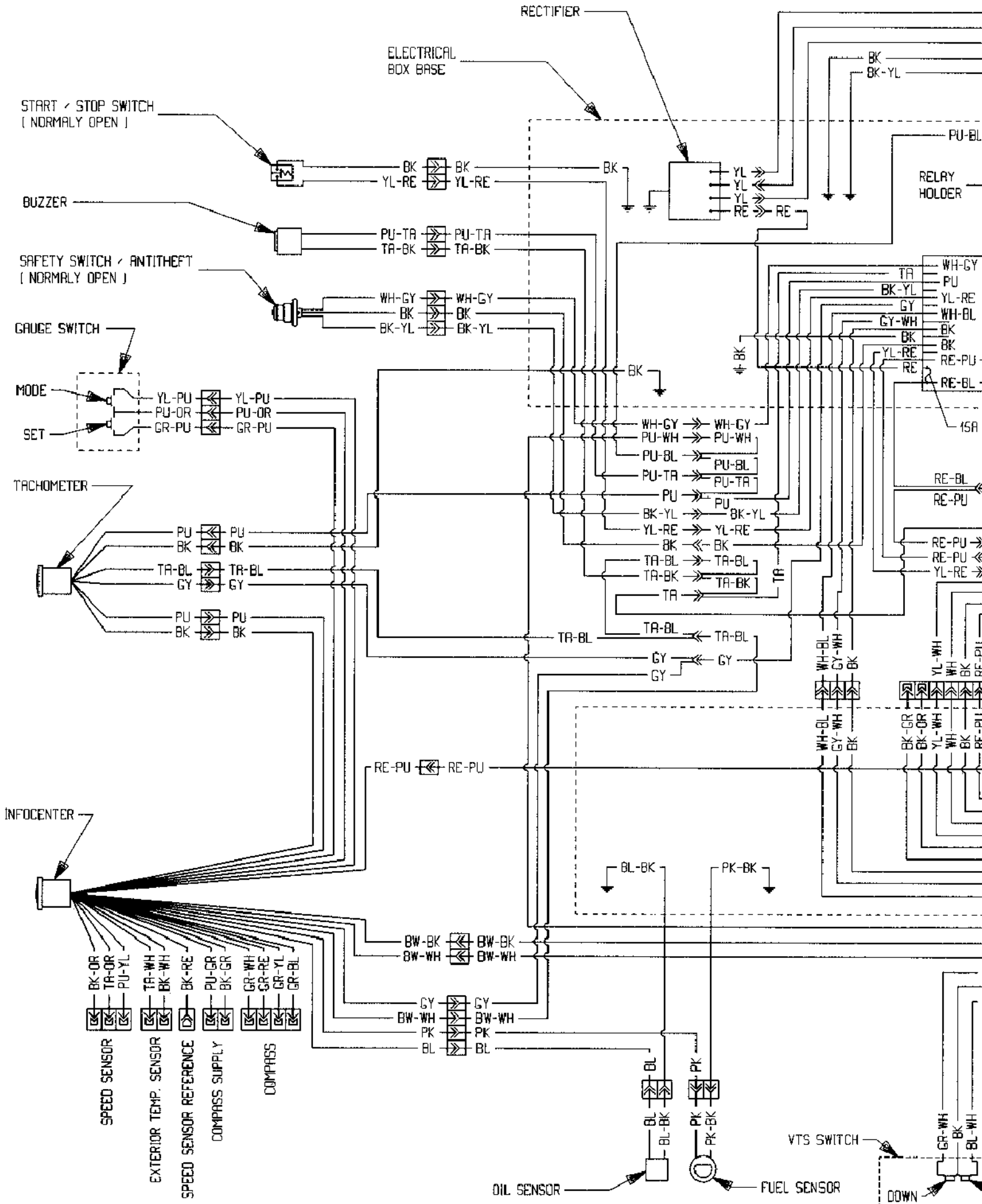
Sub-Section 01 (GSX AND GTX MODELS)

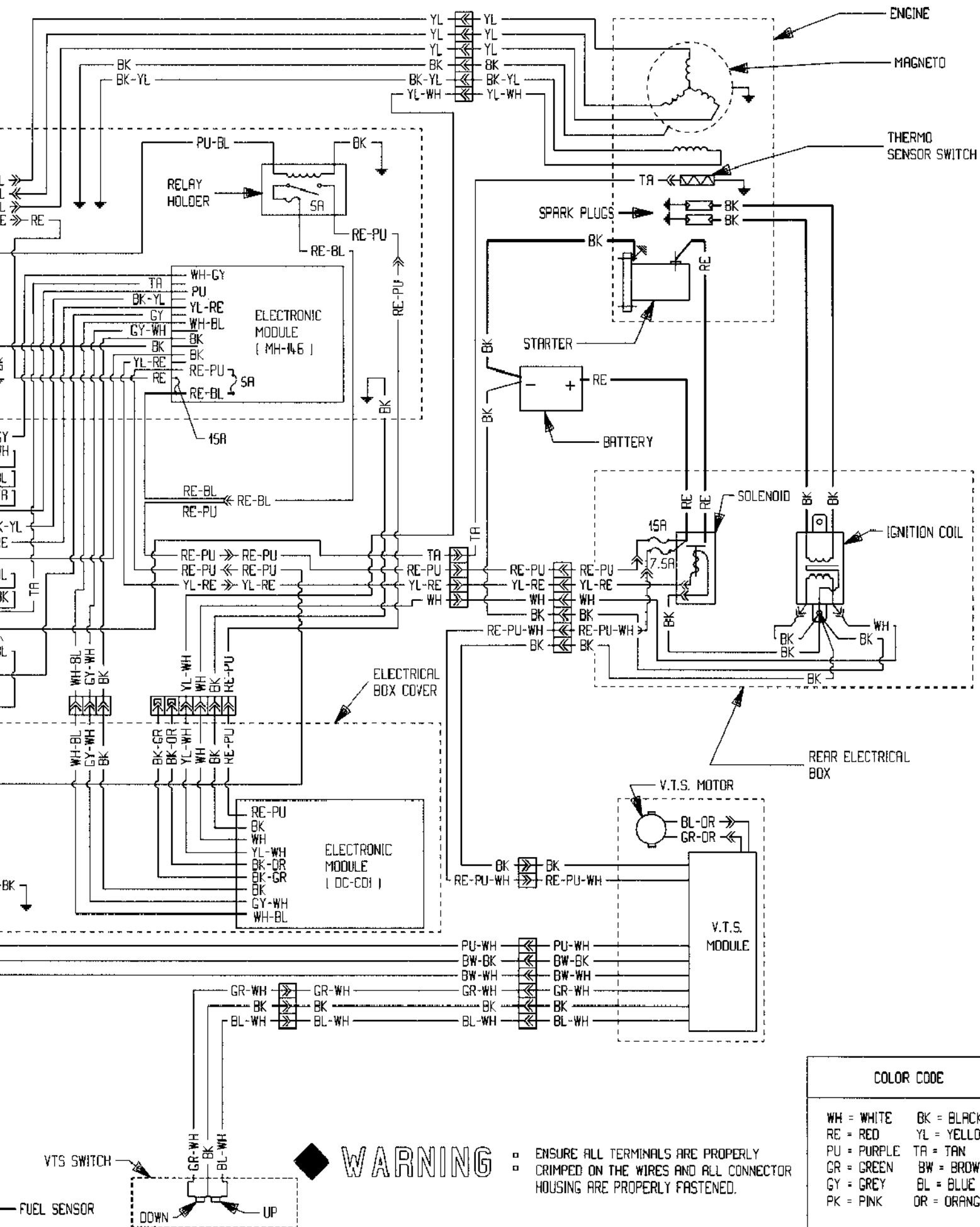
MATERIALS		GSX (5620)	GTX (5640)
Hull		Composite	
Inlet grate		Aluminum	
Impeller housing / venturi / nozzle		Plastic / Plastic / Aluminum	Plastic / Plastic / Plastic
Air intake silencer		Thermoplastic	
Flame arrester		Multi-layer wire screen	
Exhaust muffler		Aluminum	
Steering padding		Thermoplastic elastomer with polystyrene foam	
Fuel tank		Polyethylene	
Oil injection reservoir		Polyethylene	
Seat		Polyurethane foam	
ADDITIONAL INFORMATION :			
STANDARD EQUIPMENT		GSX (5620)	GTX (5640)
Safety lanyard		Standard	
Tool kit		Standard	
Fuel tank reserve		Standard	
Monitoring beeper		Standard	
Speedometer		Optional	Standard
Info Center gauge		Standard	
Tachometer		Standard	
Variable trim system (VTS)		Standard	Not applicable
Reverse		Not applicable	Standard
Storage compartment		Standard	
Rear grab handle		Standard	
Extinguisher holder		Standard	
ADDITIONAL INFORMATION :			
PERFORMANCE		GSX (5620)	GTX (5640)
Estimated pump power		42 kW (57 hp)	
Maximum fuel consumption at wide open throttle		44.5 L/h (11.7 U.S. gal/h)	
Cruising time at full throttle	Fuel tank without reserve	1 hour 8 minutes	
	Fuel tank reserve	9 minutes	
ADDITIONAL INFORMATION :			

Section 05 TECHNICAL DATA
Sub-Section 01 (GSX AND GTX MODELS)

TIGHTENING TORQUES		GSX (5620)	GTX (5640)	
ENGINE	Exhaust manifold screw	40 N•m	(30 lbf•ft) (3) (4)	
	Magneto flywheel nut	105 N•m	(77 lbf•ft) (1)	
	Flywheel (PTO side)	110 N•m	(81 lbf•ft)	
	Crankcase screws	M8	24 N•m	(17 lbf•ft) (3) (4)
		M10	40 N•m	(30 lbf•ft) (3) (4)
	Crankcase / engine support nuts	35 N•m	(26 lbf•ft) (1)	
	Engine mount / hull	25 N•m	(18 lbf•ft) (1)	
	Cylinder head screws	24 N•m	(17 lbf•ft) (1) (4)	
	Crankcase / cylinder screws	40 N•m	(30 lbf•ft) (3) (4)	
	Tuned pipe flange screws / nut	40 N•m	(30 lbf•ft) (1)	
	Tuned pipe fixation screws	25 N•m	(18 lbf•ft) (1)	
Flame arrester screws	10 N•m	(88 lbf•in) (1)		
PUMP	Impeller	70 N•m	(52 lbf•ft) (2)	
	Pump / hull nuts	31 N•m	(23 lbf•ft) (1)	
	Venturi / pump housing screws	21 N•m	(16 lbf•ft) (1)	
	VTS ring screws	14 N•m (10 lbf•ft) (1)	Not applicable	
	Deflector screws	Not applicable	9 N•m (80 lbf•in) (1)	
	Pump housing cover screws	4 N•m	(35 lbf•in) (1)	
	Inlet grate screws	8 N•m	(71 lbf•in) (1)	
Ride shoe screws	22 N•m	(16 lbf•ft) (1)		
STEERING	Cable retaining block bolts	6 N•m	(53 lbf•in)	
	Steering cable / stem arm bolt	3 N•m	(26 lbf•in)	
	Steering stem arm bolts	6 N•m	(53 lbf•in)	
	Handlebar clamp bolts	26 N•m	(19 lbf•ft)	
	Ball joint bolt	7 N•m (62 lbf•in)	2 N•m (18 lbf•in)	
	Steering support bolts	15 N•m	(11 lbf•ft) (1)	
Handlebar grip screw	14 N•m	(10 lbf•ft)		
ELECTRICAL	Magneto housing cover screws	9 N•m	(80 lbf•in) (5)	
	Starter mounting screws	22 N•m	(16 lbf•ft) (1)	
	Starter lock nuts	7 N•m	(62 lbf•in)	
	Spark plugs	24 N•m	(17 lbf•ft) (5)	
ADDITIONAL INFORMATION : Apply where indicated ; (1) Loctite 242 (blue) (2) Loctite 271 (red) (3) Loctite 515 (4) Synthetic grease (5) Anti-seize lubricant <div style="text-align: center;">  WARNING : Correct torques and use of Loctite must be strictly followed. </div>				

GSX MODEL





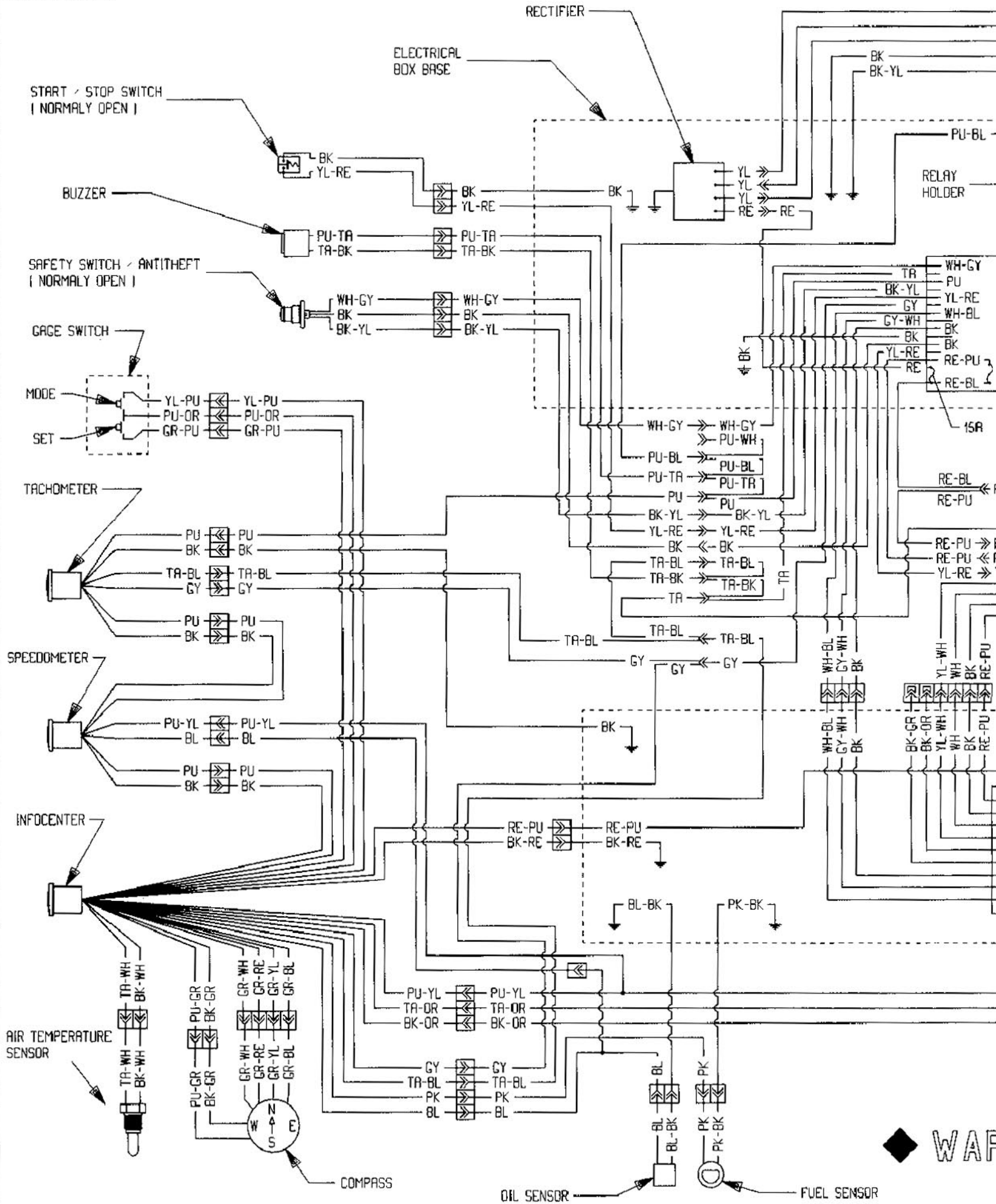
COLOR CODE

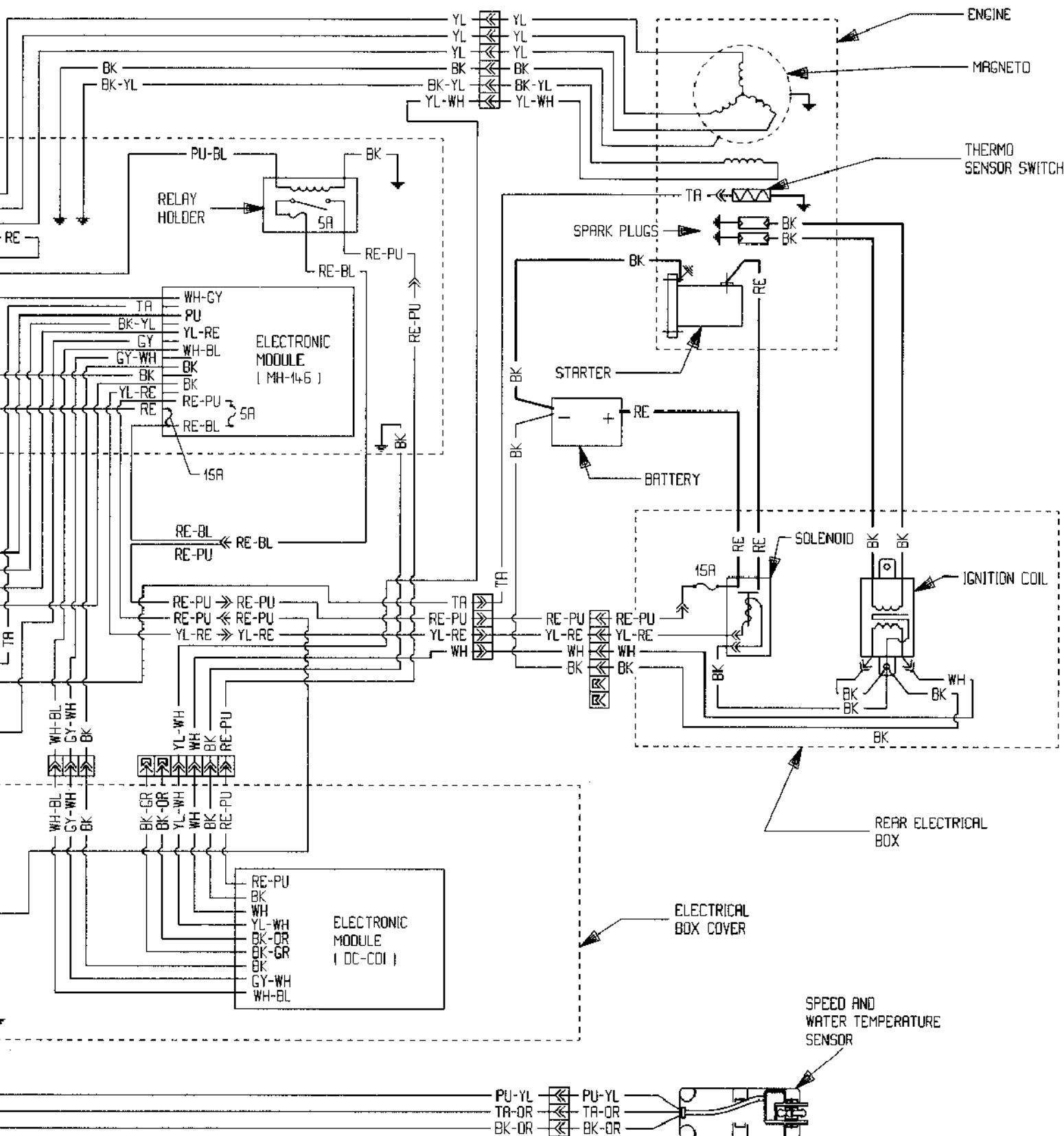
WH = WHITE	BK = BLACK
RE = RED	YL = YELLOW
PU = PURPLE	TA = TAN
GR = GREEN	BW = BROWN
GY = GREY	BL = BLUE
PK = PINK	OR = ORANGE

WARNING

- ENSURE ALL TERMINALS ARE PROPERLY CRIMPED ON THE WIRES AND ALL CONNECTOR HOUSING ARE PROPERLY FASTENED.

GTX MODEL





WARNING

- o ENSURE ALL TERMINALS ARE PROPERLY CRIMPED ON THE WIRES AND ALL CONNECTOR HOUSING ARE PROPERLY FASTENED.

COLOR CODE	
WH = WHITE	BK = BLACK
RE = RED	YL = YELLOW
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