



YAMAHA

2020

SERVICE MANUAL

TRACER 700

MTT690
MTT690-U

B4T-F8197-E0

IMPORTANT

This manual was produced by MBK industrie primarily for use by Yamaha dealers and their qualified mechanics. It is not possible to include all the knowledge of a mechanic in one manual. Therefore, anyone who uses this book to perform maintenance and repairs on Yamaha vehicles should have a basic understanding of mechanics and the techniques to repair these types of vehicles. Please refer to "BASIC INFORMATION" (separate volume, Y0A-28197-E0*) for basic instructions that must be observed during servicing. Repair and maintenance work attempted by anyone without this knowledge is likely to render the vehicle unsafe and unfit for use.



Yamaha Motor Company, Ltd. and MBK industrie are continually striving to improve all of its models. Modifications and significant changes in specifications or procedures will be forwarded to all authorized Yamaha dealers and will appear in future editions of this manual where applicable.

TIP

- * If the contents of the manual are revised, the last digit of the manual number will be increased by one.
- This Service Manual contains information regarding periodic maintenance to the emission control system. Please read this material carefully.
- Designs and specifications are subject to change without notice.

IMPORTANT MANUAL INFORMATION

Particularly important information is distinguished in this manual by the following notations.

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
NOTICE	A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.
TIP	A TIP provides key information to make procedures easier or clearer.

MTT690/MTT690-U
SERVICE MANUAL
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HOW TO USE THIS MANUAL

This manual is intended as a handy, easy-to-read reference book for the mechanic. Comprehensive explanations of all installation, removal, disassembly, assembly, repair and check procedures are laid out with the individual steps in sequential order.

- The manual is divided into chapters and each chapter is divided into sections. The current section title "1" is shown at the top of each page.
- Sub-section titles "2" appear in smaller print than the section title.
- To help identify parts and clarify procedure steps, there are exploded diagrams "3" at the start of each removal and disassembly section.
- Numbers "4" are given in the order of the jobs in the exploded diagram. A number indicates a disassembly step.
- Symbols "5" indicate parts to be lubricated or replaced. Refer to "SYMBOLS".
- A job instruction chart "6" accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc. This step explains removal and disassembly procedure only. For installation and assembly procedure, reverse the steps.
- Jobs "7" requiring more information (such as special tools and technical data) are described sequentially.

1
CLUTCH

CLUTCH

Removing the clutch cover

Order	Job/Parts to remove	Q'ty	Remarks
	Front side cowling assembly/Bottom cowling		Refer to "GENERAL CHASSIS (5)" on page 4-8.
	Engine oil		Drain. Refer to "CHANGING THE ENGINE OIL" on page 3-26.
	Coolant		Drain. Refer to "CHANGING THE COOLANT" on page 3-29.
1	Water pump breather hose	1	Disconnect.
2	Clutch cable	1	Disconnect.
3	Clutch lever	1	
4	Pull lever spring	1	
5	Clutch cover	1	
6	Clutch cover gasket	1	
7	Dowel pin	2	

5-46

CLUTCH

REMOVING THE CLUTCH

1. Remove:

- Oil strainer
Refer to "OIL PUMP" on page 5-59.
- Water pump
Refer to "WATER PUMP" on page 6-12.
- Friction plates
- Clutch plates

TIP
Be sure to mark the friction plates and clutch plates or note the position of each part so they are installed in their original positions.

2. Straighten the clutch boss nut rib "a".

3. Loosen:

- Clutch boss nut "1"

TIP
While holding the clutch boss "2" with the universal clutch holder "3", loosen the clutch boss nut.

Universal clutch holder
9090-04089
Universal clutch holder
YM-91042

4. Remove:

- Spacer "1"
- Bearing
- Clutch housing "2"
- Oil pump drive chain

TIP
Remove the spacer and bearing from the main axle, then remove the oil pump drive chain from the oil pump driven sprocket, and then remove the clutch housing and oil pump drive chain from the main axle.

CHECKING THE FRICTION PLATES
The following procedure applies to all of the friction plates.

1. Check:

- Friction plate
Damage/wear → Replace the friction plates as a set.

2. Measure:

- Friction plate thickness
Out of specification → Replace the friction plates as a set.

TIP
Measure the friction plate at four places.

Friction plate thickness
2.92-3.08 mm (0.115-0.121 in)
Wear limit
2.80 mm (0.110 in)

CHECKING THE CLUTCH PLATES
The following procedure applies to all of the clutch plates.

5-50

SYMBOLS

The following symbols are used in this manual for easier understanding.

TIP

The following symbols are not relevant to every vehicle.



















SYMBOL	DEFINITION	SYMBOL	DEFINITION
	Serviceable with engine mounted		Gear oil
	Filling fluid		Molybdenum disulfide oil
	Lubricant		Brake fluid
	Special tool		Wheel bearing grease
	Tightening torque		Lithium-soap-based grease
	Wear limit, clearance		Molybdenum disulfide grease
	Engine speed		Silicone grease
	Electrical data		Apply locking agent (LOCTITE®).
	Engine oil		Replace the part with a new one.

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GENERAL INFORMATION

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IDENTIFICATION

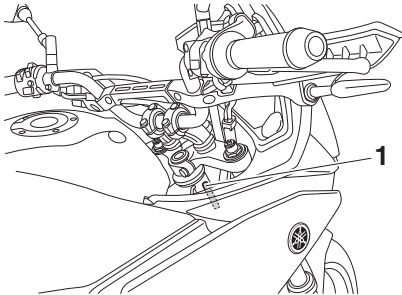
EAS20007

IDENTIFICATION

EAS30002

VEHICLE IDENTIFICATION NUMBER

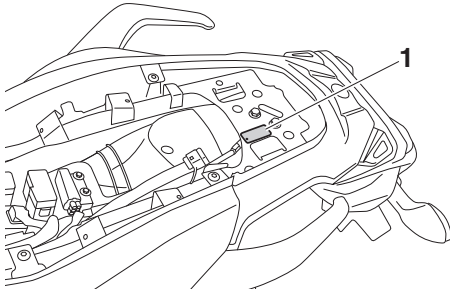
The vehicle identification number “1” is stamped into the right side of the steering head pipe.



EAS30003

MODEL LABEL

The model label “1” is affixed to the frame under the seat. This information will be needed to order spare parts.

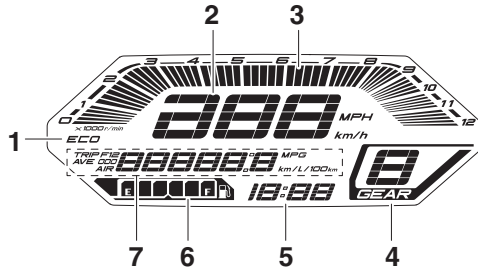


EAS20008

FEATURES

EAS30982

MULTI-FUNCTION METER UNIT



1. Eco indicator "ECO"
2. Speedometer
3. Tachometer
4. Transmission gear display
5. Clock
6. Fuel meter
7. Multi-function display

The multi-function meter unit is equipped with the following:

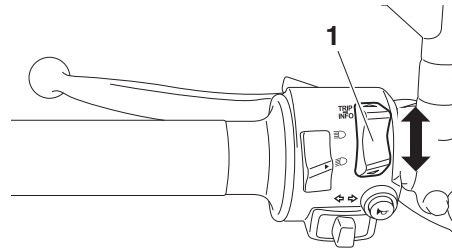
- speedometer
- tachometer
- fuel meter
- clock
- eco indicator
- transmission gear display
- multi-function display

EWA12423

WARNING

Be sure to stop the vehicle before making any setting changes to the multi-function meter unit. Changing settings while riding can distract the operator and increase the risk of an accident.

The "TRIP/INFO" switch is located on the left side of the handlebar. This switch allows you to control or change the settings of the multi-function meter unit. To use the "TRIP" switch, move the "TRIP/INFO" switch in direction "a". To use the "INFO" switch, move the "TRIP/INFO" switch in direction "b".



1. "TRIP/INFO" switch

TIP

- To switch between kilometers and miles, set the multi-function display to the odometer, and then turn the key to "OFF". Push and hold the "TRIP" switch and then turn the key to "ON". Continue pushing until the "TRIP" switch display units change.
- The display units will return to factory settings in case of battery disconnection.

EWA12423

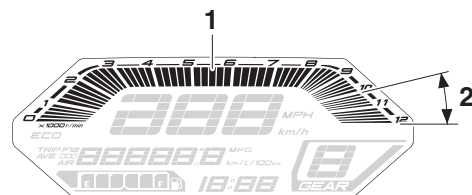
WARNING

Be sure to stop the vehicle before making any setting changes to the multi-function meter unit. Changing settings while riding can distract the operator and increase the risk of an accident.

Speedometer

The speedometer shows the vehicle's traveling speed.

Tachometer



1. Tachometer
2. Tachometer red zone

The tachometer shows the engine speed.

ECA19660

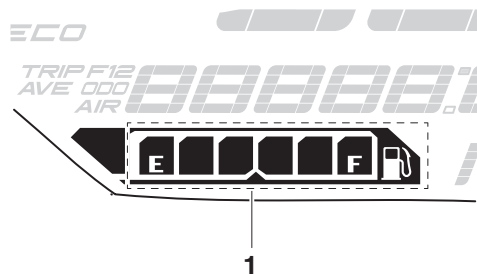
NOTICE

Do not operate the engine in the tachometer red zone.

FEATURES



Fuel meter



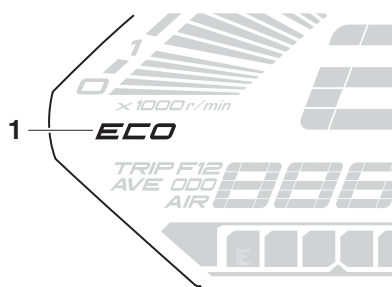
1. Fuel meter

The fuel meter indicates the amount of fuel in the fuel tank. The segments of the fuel meter disappear from “F” (full) towards “E” (empty) as the fuel level decreases. When the last segment of the fuel meter starts flashing, refuel as soon as possible.

TIP

If a problem is detected in the electrical circuit, the fuel meter segments will flash repeatedly. If this occurs, refer to “SIGNALING SYSTEM” on page 8-19.

Eco indicator



1. Eco indicator “ECO”

This indicator comes on when the vehicle is being operated in an environmentally friendly, fuel-efficient manner. The indicator goes off when the vehicle is stopped.

TIP

Consider the following tips to reduce fuel consumption:

- Avoid high engine speeds during acceleration.
- Travel at a constant speed.

- Select the transmission gear that is appropriate for the vehicle speed.

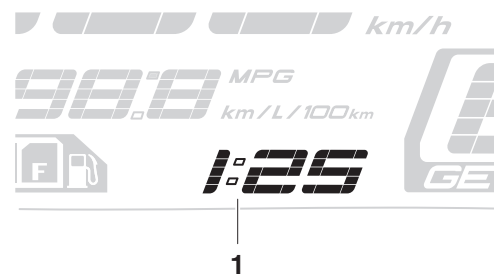
Transmission gear display



1. Transmission gear display

The transmission gear display shows the selected gear. The neutral position is indicated by “-”.

Clock



1. Clock

The clock uses a 12-hour time system.

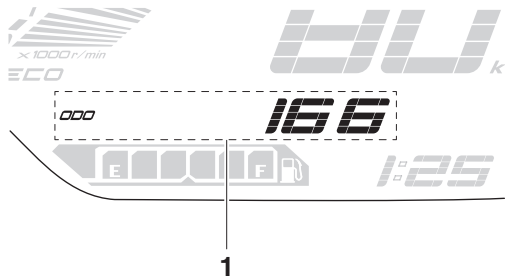
To set the clock

1. Set the multi-function display to “ODO”
2. Push the “TRIP” switch until the hour digits start flashing.
3. Push the “TRIP” switch to set the hours.
4. Push the “INFO” switch and the minute digits will start flashing.
5. Push the “TRIP” switch to set the minutes.
6. Push the “INFO” switch to confirm settings and start the clock.

TIP

When setting the hours and minutes, push the “TRIP” switch briefly to increase the increment value one by one, or push and hold the switch to increase the increment value continuously.

Multi-function display



1. Multi-function display

The multi-function display can show:

- an odometer
- two tripmeters
- a fuel reserve tripmeter
- an instantaneous fuel consumption display
- an average fuel consumption display
- a coolant temperature display
- an air temperature display
- a brightness control mode

The odometer shows the total distance the vehicle has traveled. The standard tripmeters show the distance traveled since they were last reset. The fuel reserve tripmeter shows the distance traveled since the last segment of the fuel meter began flashing.

TIP

- The odometer will lock at 999999 and cannot be reset.
- The tripmeter will reset to 0 and continue counting after 9999.9 is reached.

Push the “TRIP” switch briefly to switch the display in the following order:

ODO → TRIP 1 → TRIP 2 → TRIP F → km/L or L/100 km or MPG → AVE___ km/L or AVE___ L/100 km or AVE___ MPG → ___ °C → Air___ °C → ODO

TIP

- Push “INFO” switch briefly to switch the display in the reverse order.
- The display changes to fuel reserve tripmeter “TRIP F” when the last segment of the fuel meter starts flashing.
- To reset a tripmeter, select it by pushing the “TRIP” switch or the “INFO” switch, and while the digits are flashing, push the “INFO” switch until it is reset.

- If you do not reset the fuel reserve tripmeter manually, it will reset automatically and disappear from the display after refueling and traveling 5 km (3 mi).

Fuel reserve tripmeter

When the fuel level becomes low, the last segment of the fuel meter will start flashing. The fuel reserve tripmeter “TRIP F” will automatically appear and start counting the distance traveled from that point. In this case, push the “TRIP” switch to switch the display in the following order:

TRIP F → km/L or L/100 km → AVE___ km/L or AVE___ L/100 km → ___ °C → Air___ °C → ODO → TRIP 1 → TRIP 2 → TRIP F

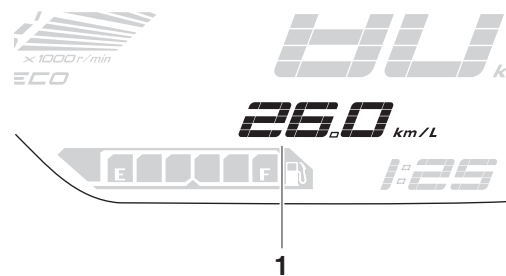
For the UK:

TRIP F → MPG → AVE___ MPG → ___ °C → Air___ °C → ODO → TRIP 1 → TRIP 2 → TRIP F

TIP

- Push the “INFO” switch to change the display in the reverse order.
- You can manually reset the fuel reserve tripmeter, or after refueling and traveling 5 km (3 mi) it will reset automatically and disappear from the display.

Instantaneous fuel consumption



1. Instantaneous fuel consumption display

This function calculates the fuel consumption under current riding conditions.

The instantaneous fuel consumption display can be set to either “km/L”, “L/100 km” when using kilometers.

To switch the fuel consumption units, push the top set button until the measurement units change. When using miles, the fuel consumption unit is “MPG”.

FEATURES

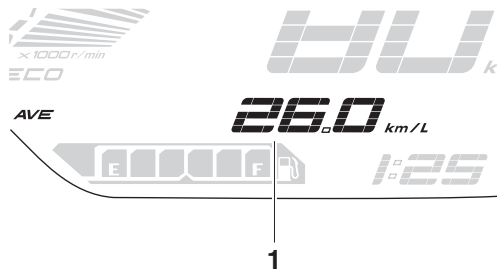
- “km/L”: The distance that can be traveled on 1.0 L of fuel under the current riding conditions is shown.
- “L/100 km”: The amount of fuel necessary to travel 100 km under the current riding conditions is shown.
- “MPG”: The distance that can be traveled on 1.0 Imp.gal of fuel under the current riding conditions is shown.

To switch the instantaneous fuel consumption settings, push and hold “TRIP” switch until the display changes.

TIP

If traveling at speeds under 20 km/h (12 mi/h), “_ _.” is displayed.

Average fuel consumption



1. Average fuel consumption display

This display shows the average fuel consumption since it was last reset.

The average fuel consumption can be set to either “AVE_ _ . _ km/L”, “AVE_ _ . _ L/100 km” when using kilometers. To switch the fuel consumption units, when the display is steady, push the “TRIP” switch until the measurement units change. When using miles, the fuel consumption is “AVE_ _ . _ MPG”.

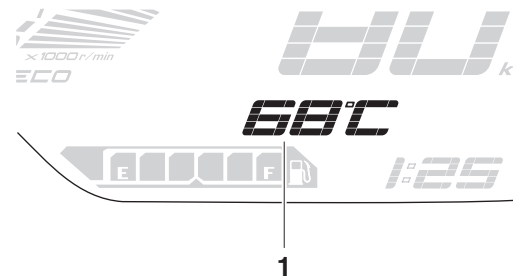
- “AVE_ _ . _ km/L”: The average distance that can be traveled on 1.0 L of fuel is shown.
- “AVE_ _ . _ L/100 km”: The average amount of fuel necessary to travel 100 km is shown.
- “AVE_ _ . _ MPG”: The average distance that can be traveled on 1.0 Imp.gal of fuel is shown.

To reset the average fuel consumption, select it and while the digits are flashing push the “TRIP” switch until it is reset.

TIP

After resetting the average fuel consumption, “_ _ . _” will be shown until the vehicle has traveled 1 km (0.6 mi).

Coolant temperature



1. Coolant temperature display

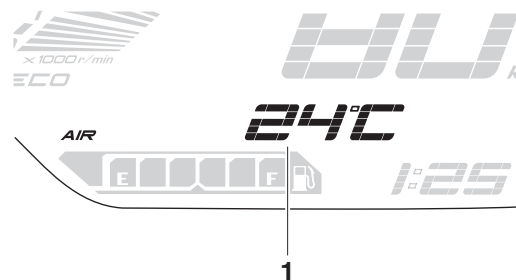
This display shows the coolant temperature from 40 °C to 116 °C in 1 °C increments.

If the message “Hi” flashes, stop the vehicle, then stop the engine, and let it cool.

TIP

- When the coolant temperature is below 40 °C, “Lo” will be displayed.
- The coolant temperature varies with changes in the weather and engine load.

Air temperature



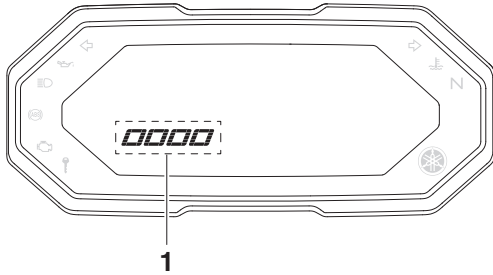
1. Air temperature display

This display shows the air temperature from –9 °C to 99 °C in 1 °C increments. The temperature displayed may vary from the ambient temperature.

TIP

When the temperature is below –9 °C, “Lo” will be displayed.

Brightness control mode



1. Brightness level display

The brightness level of the multi-function meter unit panel can be adjusted.

To adjust the brightness

1. Turn the key to "OFF".
2. Push and hold the "INFO" switch.
3. Turn the key to "ON" and continue pushing the "INFO" switch until the display switches to the brightness control mode.
4. Push the "TRIP" switch to set the brightness level.
5. Push the "INFO" switch to confirm the selected brightness level and exit the brightness control mode.

TIP

There are 4 brightness level settings.

SPECIAL TOOLS



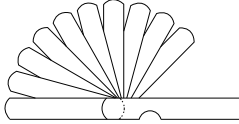

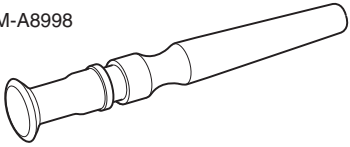
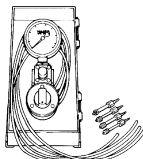

EAS20012

SPECIAL TOOLS

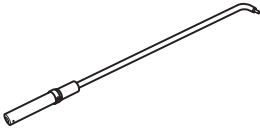
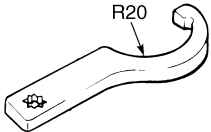
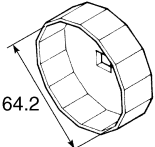
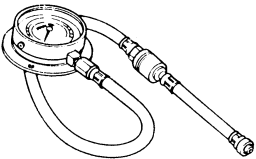
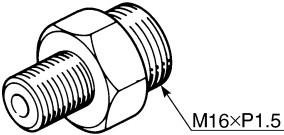
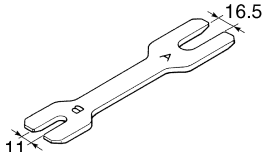
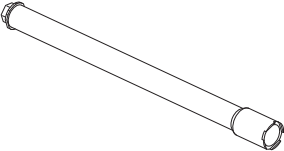
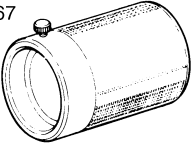
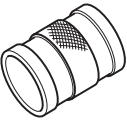
The following special tools are necessary for complete and accurate tune-up and assembly. Use only the appropriate special tools as this will help prevent damage caused by the use of inappropriate tools or improvised techniques. Special tools, part numbers or both may differ depending on the country. When placing an order, refer to the list provided below to avoid any mistakes.

TIP

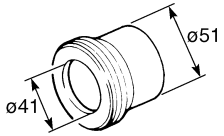
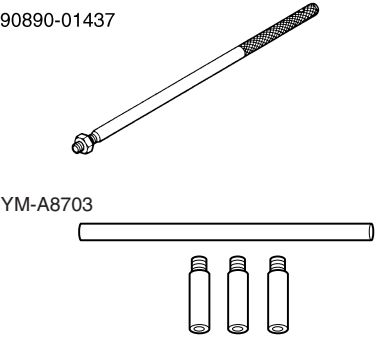
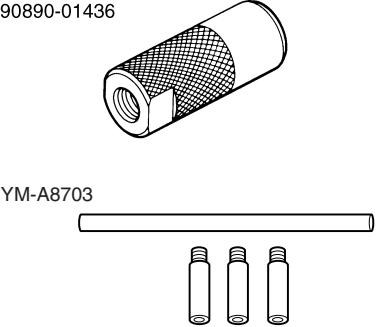
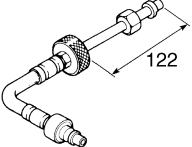
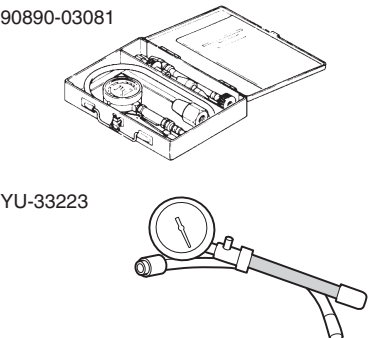
- For U.S.A. and Canada, use part number starting with “YM-”, “YU-”, or “ACC-”.
- For others, use part number starting with “90890-”.

Tool name/Tool No.	Illustration	Reference pages
Yamaha diagnostic tool USB 90890-03267		3-4, 3-8, 3-11, 4-68, 4-70, 9-2, 9-28, 9-29
Yamaha diagnostic tool (A/I) 90890-03264		3-4, 3-8, 3-11, 4-68, 4-70, 9-2, 9-28, 9-29
Thickness gauge 90890-03268 Feeler gauge set YU-26900-9		3-6, 4-29, 4-37, 5-56
Valve lapper (ø14) 90890-04101 Valve lapping tool (14mm) YM-A8998	90890-04101  YM-A8998 	3-7
Vacuum gauge 90890-03094 Vacuummate YU-44456	90890-03094  YU-44456 	3-9

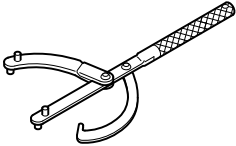
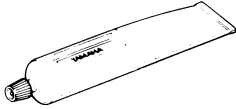
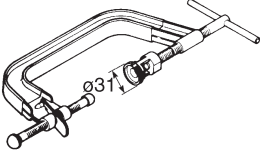
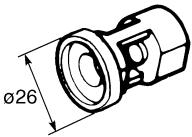
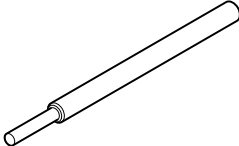
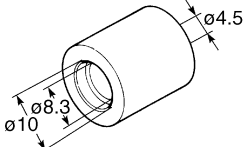
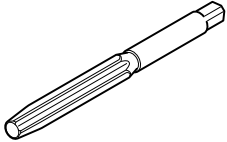
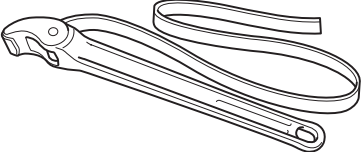
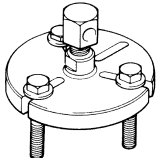
SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Carburetor angle driver 2 90890-03173		3-10
Steering nut wrench 90890-01403 Exhaust flange nut wrench YU-A9472		3-19, 4-93
Oil filter wrench 90890-01426 Oil filter wrench YU-38411		3-23
Pressure gauge 90890-03153 Pressure gauge YU-03153		3-24, 7-14, 7-15
Oil pressure adapter H 90890-03139		3-24
Rod holder 90890-01434 Damper rod holder double ended YM-01434		4-84, 4-89
Damper rod holder (32.5mm) 90890-01902		4-84, 4-86
Fork seal driver weight 90890-01367 Replacement hammer YM-A9409-7	<p data-bbox="756 1641 874 1664">90890-01367</p>  <p data-bbox="756 1823 986 1845">YM-A9409-7/YM-A5142-4</p> 	4-87, 4-87, 4-87

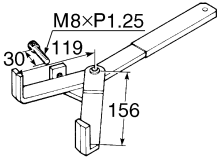
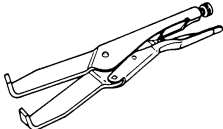
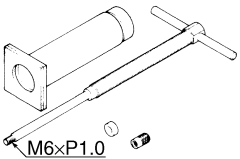
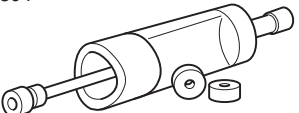
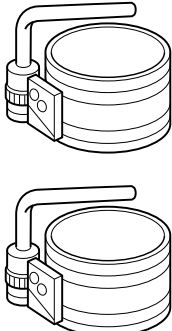
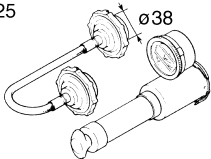
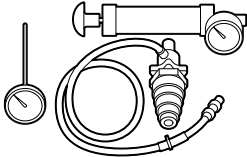
SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Fork seal driver attachment (ø41) 90890-01381 Replacement 41 mm YM-A5142-2		4-87, 4-87
Rod puller 90890-01437 Universal damping rod bleeding tool set YM-A8703		4-88, 4-89
Rod puller attachment (M10) 90890-01436 Universal damping rod bleeding tool set YM-A8703		4-88, 4-89
Compression gauge extension 122mm 90890-04136 Compression gauge extension 122mm YM-04136		5-7
Compression gauge 90890-03081 Engine compression tester YU-33223		5-7

SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Rotor holding tool 90890-01235 Universal magneto and rotor holder YU-01235		5-21, 5-24
Yamaha bond No. 1215 90890-85505 (Three bond No.1215®)		5-28, 5-46, 5-72, 5-74
Valve spring compressor 90890-04019 Valve spring compressor YM-04019		5-35, 5-39
Valve spring compressor attachment (ø26) 90890-01243 Valve spring compressor adapter (26 mm) YM-01253-1		5-35, 5-39
Valve guide remover (ø4.5) 90890-04116 Valve guide remover (4.5 mm) YM-04116		5-37
Valve guide installer (ø4.5) 90890-04117 Valve guide installer (4.5 mm) YM-04117		5-37
Valve guide reamer (ø4.5) 90890-04118 Valve guide reamer (4.5 mm) YM-04118		5-37
Rotor holding tool 90890-04166 Rotor holding tool YM-04166		5-44, 5-44, 5-45, 5-45
Flywheel puller 90890-01362 Heavy duty puller YU-33270-B		5-44

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Tool name/Tool No.	Illustration	Reference pages
Universal clutch holder 90890-04086 Universal clutch holder YM-91042	90890-04086  YM-91042 	5-55, 5-58
Piston pin puller set 90890-01304 Piston pin puller YU-01304	90890-01304  YU-01304 	5-78
Piston ring compressor 90890-05158 Piston ring compressor YM-08037		5-85
Radiator cap tester 90890-01325 Mityvac cooling system tester kit YU-24460-A	90890-01325  YU-24460-A 	6-4

SPECIAL TOOLS

Tool name/Tool No.	Illustration	Reference pages
Radiator cap tester adapter 90890-01352 Pressure tester adapter YU-33984		6-4
Mechanical seal installer (ø33) 90890-04132 Water pump seal installer (ø33) YM-33221-A		6-12
Middle driven shaft bearing driver 90890-04058 Middle drive bearing installer 40 & 50 mm YM-04058		6-12
Fuel injector pressure adapter 90890-03210 Fuel injector pressure adapter YU-03210		7-14
Fuel pressure adapter 90890-03176 Fuel pressure adapter YM-03176		7-15
Digital circuit tester (CD732) 90890-03243 Model 88 Multimeter with tachometer YU-A1927		8-37, 8-38, 8-39, 8-40, 8-40, 8-41, 8-41, 8-42, 8-43, 8-43, 8-44, 8-44, 8-45, 8-46, 8-46, 8-47
Ignition checker 90890-06754 Oppama pet-4000 spark checker YM-34487		8-40
Test harness– lean angle sensor (6P) 90890-03209 Test harness– lean angle sensor (6P) YU-03209		8-41