



YAMAHA

SNOWMOBILE

MOTONEIGE

EC340E

SUPPLEMENTARY

SERVICE MANUAL

FOREWORD

This supplementary service manual for EC340E has been published to supplement the ET340ED supplementary service manual (8J9-28197-10). For complete information on service procedures, it is necessary to use this Supplementary Service Manual together with the following manuals.

ET340B Service Manual (8J8-28197-10)

ET340C Supplementary Service Manual (8J4-28197-10)

ET340ED Supplementary Service Manual (8J9-28197-10)

NOTE:

The Research and Engineering Departments of Yamaha are continually striving to further perfect all models. Improvements and modifications are therefore inevitable.

In light of this fact, all specifications within this manual are subject to change without notice. Information regarding changes is forwarded to all Authorized Yamaha Dealers as soon as available.

**SERVICE DEPT.
INTERNATIONAL DIVISION
YAMAHA MOTOR CO., LTD.**

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

- NOTE:** A NOTE provides key information to make procedures easier or clearer.
- CAUTION:** A CAUTION indicates special procedures that must be followed to avoid damage to the machine.
- WARNING:** A WARNING indicates special procedures that must be followed to avoid injury to a machine operator or person inspecting or repairing the machine.

**YAMAHA EC340E
SUPPLEMENTARY SERVICE MANUAL
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1. NEW SERVICE PROCEDURE

In servicing the EC340E, there is no particular service procedure to be added to that for the ET340ED.

3. SPECIFICATIONS

NOTE: * New specification
(Compared with 1980 ET340ED)

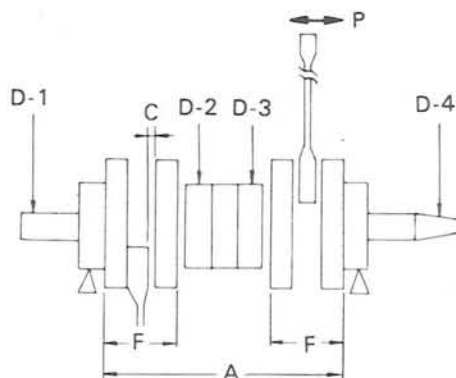
General

Model	EC340E:
Model: Model (I.B.M. No.) Frame I.D. & starting number Engine I.D. & starting number	* EC340E (8L6) * 8L6-06701 * E388-06701
Dimension: Overall length Overall width (std) Overall height (w/windshield)	2,555 mm (100.6 in) 970 mm (38.2 in) 1,040 mm (40.9 in)

Engine

Description: Engine type Engine model Displacement Bore × Stroke Effective compression ratio Starting system Ignition system Lubrication system	Fan cooled two-stroke 5-port, twin cylinders E338 338 cc (20.6 cu.in) 60 × 59.6 mm (2.36 × 2.35 in) 6.5 : 1 Recoil hand starter and electric starter C.D.I. "Autolube" oil inspection
Cylinder head: Combustion chamber volume (with spark plug) Compression chamber type Head gasket thickness	21.3 cc (1.30 cu.in) Dome + Squish 0.5 mm (0.02 in)
Cylinder: Material Bore size Taper limit Out of round limit	Cast iron sleeves aluminum 60 mm (2.362 in) 0.05 mm (0.0020 in) 0.01 mm (0.0004 in)
Piston: Piston skirt clearance (Measuring point) Piston oversize Piston pin outside diameter × length	0.040 ~ 0.045 mm (0.0016 ~ 0.0018 in) (10 mm from piston skirt end) 1st 60.25 mm (2.372 in) 2nd 60.50 mm (2.382 in) 3rd 60.75 mm (2.392 in) 4th 61.00 mm (2.402 in) φ16 × 47 mm (φ0.630 × 1.85 in)
Piston ring: Piston ring design (Top) Piston ring design (2nd) Ring end gap (installed) (Top) Ring end gap (installed) (2nd)	Keystone Keystone 0.35 ~ 0.55 mm (0.014 ~ 0.022 in) 0.35 ~ 0.55 mm (0.014 ~ 0.022 in)
Small end bearing: Type	Needle bearing
Big end bearing: Type	Needle bearing
Crankshaft: Crankshaft assembly width (A)	160 ± 0.1 mm (6.30 ± 0.004 in)

Crankshaft assembly width (F)	52 $\begin{smallmatrix} +0 \\ -0.05 \end{smallmatrix}$ mm (2.047 $\begin{smallmatrix} +0 \\ -0.002 \end{smallmatrix}$ in)
Crankshaft deflection (D)	0.03 mm (D-1) 0.04 mm (D-2) 0.04 mm (D-3) 0.03 mm (D-4)
Connecting rod large end side clearance (C)	0.25~0.75 mm (0.010~0.014 in)
Connecting rod small end deflection (P)	2.0 mm (0.079 in)



Crank pin outside diameter × length	φ22 × 51 mm (φ0.866 × 2.008 in)
Crank pin type	Solid shaft assembly type with serration
Crank bearing type (Left) × q'ty	#6306 special 1 pc.
Crank bearing type (Center) × q'ty	#6206 special × 2 pcs.
Crank bearing type (Right) × q'ty	#6305 special × 1 pc.
Crank oil seal type (Left) × q'ty	FPJ-30 72 8 2TS × 1 pc.
Crank oil seal type (Center) × q'ty	Labyrinth seal × 1 pc.
Crank oil seal type (Right) × q'ty	FPJ-25 48 8TS × 1 pc.

Carburetor:	
Type & manufacturer/quantity	B38-34 MIKUNI × 1 pc.
I.D. Mark	8J600
Main jet (M.J.)	#240
Pilot jet (P.J.)	#75
Pilot screw (P.S.)	1.0 turns out
Throttle valve (Th.V.)	#190
Valve seat (V.S.)	φ1.5 mm (0.059 in)
Float height	25 ± 1 mm (0.98 ± 0.04 in)
Idling engine speed	1700 r/min

Main jet setting chart

Altitude	Temperature	-30°C (-22°F)	-20°C (-4°F)	-10°C (14°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)
Sea level		#250	#240 (Std)	#240 (Std)	#220	#220	#220
~ 600m (2000 ft)		#240 (Std)	#240 (Std)	#220	#220	#220	#220
~ 1200m (4000 ft)		#240 (Std)	#240 (Std)	#220	#210	#210	#210
~ 1800m (6000 ft)		#220	#220	#210	#210	#200	#200
~ 2400m (8000 ft)		#210	#210	#200	#200	#190	#190
~ 3000m (10000 ft) or more		#200	#200	#200	#190	#190	#190

* Newly changed specification.

Lubrication:	
Autolube pump — Color code	White
Autolube pump — Minimum stroke	0.20 ~ 0.25 mm (0.0079 ~ 0.0098 in)
Autolube pump — Maximum stroke	1.65 ~ 1.87 mm (0.0657 ~ 0.0736 in)
Autolube pump — Reduction ratio	1/32
Autolube pump — Output Min./200 strokes	0.50 ~ 0.63 cc (0.0169 ~ 0.0213 oz)
Autolube pump — Output Max./200 strokes	4.15 ~ 4.70 cc (0.1403 ~ 0.1589 oz)
Autolube pump wire free play	25 ± 1 mm (0.98 ± 0.04 in) at idle
Oil tank capacity	2.4 Liter (2.5 US.qt)
Oil grade	YAMALUBE 2-cycle

Drive and track suspension

Transmission: Type Drive ratio Engagement rpm Primary spring: Part No. Color code Secondary spring: Part No. Color code Secondary spring pre-load (twist) Sheave distance Sheave off-set V-belt width and outer line length V-belt wear limit	V-belt automatic centrifugal engagement 3.5 : 1 ~ 1 : 1 3000 r/min 90501-50500 Red 90508-40080 No painted 160° 266 ± 2 mm (10.47 ± 0.08 in) 11 ± 1 mm (0.43 ± 0.04 in) 31.6 × 1,099 mm (1.24 × 43.3 in) 26 mm (1.02 in)
Track suspension: Type Damper type Spring color code (Front) Spring color code (Rear) Slide runner wear limit Track width Trade deflection Length on ground Wheel sprocket material and number of teeth Stopper band length (Front)	Slide rail suspension Oil and gas damper Red No painted 10 mm (0.394 in) 380 mm (15 in) 25 ~ 30 mm/10 kg (0.98 ~ 1.18 in/22 lb) 760 mm (29.9 in) Polyethylene 11T 186.5 mm (7.34 in) (1st hole from the bottom)
Secondary drive: Type Reduction ratio Chain pitch × Number of links Free play Chain housing oil quantity Chain housing oil grade	Chain (#40K-2) 22/13 (1.692) 12.7 mm (0.5 in) × 60L 10 $\begin{smallmatrix} +5 \\ -2 \end{smallmatrix}$ mm (0.4 $\begin{smallmatrix} +0.2 \\ -0.08 \end{smallmatrix}$ in) 400 cc (13.5 oz) Gear oil API "GL3" (SAE #75 or 85)
Brake: Type Brake pad thickness Brake pad wear limit Gap between pad and disc	Disc brake 7.3 mm (0.287 in) 1.0 mm (0.04 in) 0.2 ~ 1.0 mm (0.008 ~ 0.039 in)

Chassis

Frame: Material	Aluminum + Steel
Steering system: Caster (ski column) Camber Ski length X width X thickness Ski stance Ski toe-out Steering linkage type Lock to lock angle (Ski) Lock to lock angle (Steering column)	25° 0° 980 x 120 x 1.6 mm (38.6 x 4.7 x 0.06 in) 850 mm (33.5 in) 0 ~ 6 mm (0 ~ 0.23 mm) Tie-rod Right ski, L: 27.6° R: 24.8° Left ski, L: 24.8° R: 27.6° Right: 54.3° Left: 56.3°
Front suspension: Type Damper type	Leaf spring Oil damper
Fuel tank: Capacity Fuel grade	22.7 liter (6 US. gal) Regular gasoline

Electrical

Ignition system: Type—flywheel magneto (C.D.I. Type) Model/manufacture Voltage Pulser coil resistance Charging coil resistance Charging coil resistance	F3T352/MITSUBISHI 12V 9.0Ω at 20°C (68°F) (White/Red—Black) 350Ω at 20°C (68°F) (Brown—Black) 15.0Ω at 20°C (68°F) (Blue—Black)
Ignition timing: B.T.D.C.	1.6 ± 0.1 mm (0.06 ± 0.004 in)
Ignition coil: Model/Manufacturer Spark gap Primary winding resistance Secondary winding resistance Diode (Yes or No)	CM62-20/HITACHI * YW51/TOYO DENSO 9 mm (0.4 in)/300 r/min ← 11 mm (0.6 in)/3,000 r/min ← 0.15Ω at 20°C (68°F) 0.12Ω at 20°C (68°F) 3.6kΩ at 20°C (68°F) 4.0kΩ at 20°C (68°F) No ←
Spark plug: Type & quantity Spark plug gap	NGK BR-9ES x 2 pcs. 0.7~0.8 mm (0.028~0.031 in)
Spark plug cap: Type Noise suppressor resistance	Rubber type with noise suppressor 5.5kΩ at 20°C (68°F)
C.D.I. unit: Model/Manufacturer	8H4-20/MITSUBISHI
Starter motor type: Armature coil resistance Field coil resistance Brush length: standard minimum Brush spring pressure Armature mica undercut	* NIPPON DENSO 028000-7180 * 0.014Ω at 20°C (68°F) * — * 12 mm (0.47 in) * 8.5 mm (0.33 in) * 800 g (28.2 oz) * 0.6 mm (0.023 in)

Battery type: Charging rate Specific gravity	YUASA YB-14L-2A 1.4 Amps for 10 Hours 1.28/20°C (68°F)
Charging system Type Charging coil resistance	Flywheel magneto 0.22Ω at 20°C (68°F) (White—Black)
Starter relay switch: Cut-in voltage Winding resistance	Hitachi A104-61 6.5V 3.0Ω at 20°C (68°F)
Rectifier: Type Model/manufacture Capacity With stand voltage	1-element type (Half wave) DE5404/STANLEY 6A 400V
Lighting system: Lighting output Lighting coil resistance Head light type Bulb wattage/q'ty Tail/brake light wattage	12V-110W 0.19Ω at 20°C (68°F) (Yellow—Black) Semi shield 12V-60/60W × 1 pc. 12V-8W/23W
A.C. voltage regulator: Model/Manufacturer Voltage	TRIZ-24B/HITACHI or S8516B/TOSHIBA 13.8 ± 0.5V

