YAMAHA

SNOWMOBILE
MOTONEIGE

EC340E

SUPPLEMENTARY
SERVICE MANUAL

LIT-12618-00-35

8L6-28197-10

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
1st EDITION, July 1980

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CONTENTS

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)

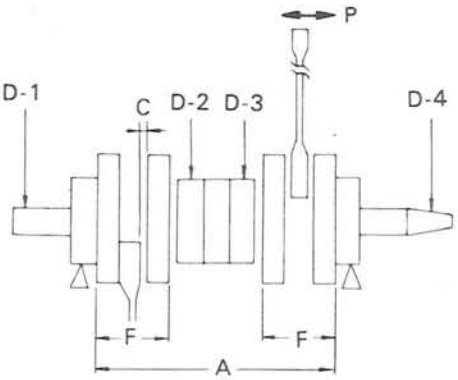
General

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

Engine

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

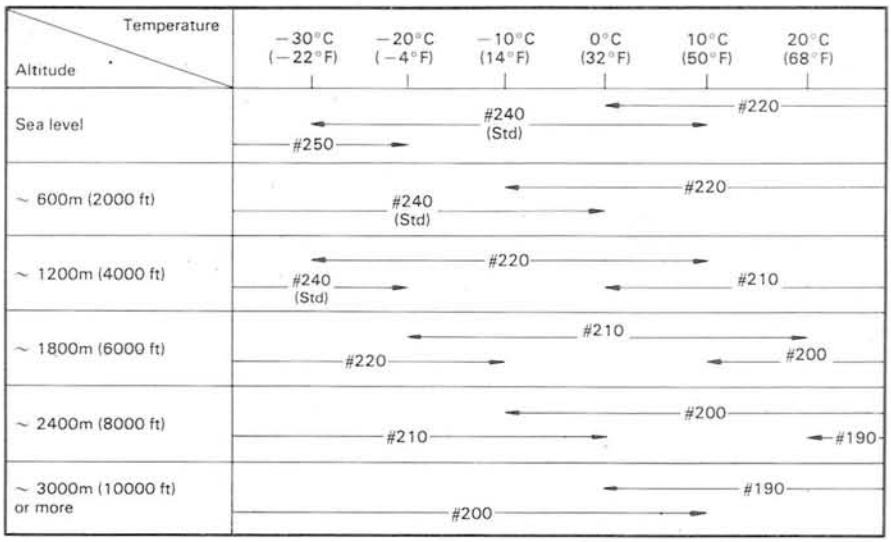
Crankshaft assembly width (F)	52 $^{+0}_{-0.05}$ mm (2.047 $^{+0}_{-0.002}$ in)
Crankshaft deflection (D)	0.03 mm (D-1) 0.04 mm (D-2) 0.04 mm (D-3) 0.03 mm (D-4)
Connecting rod large end side clearance (C)	0.25~0.75 mm (0.010~0.014 in)
Connecting rod small end deflection (P)	2.0 mm (0.079 in)



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



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

Chassis

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

Electrical

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