



SERVICE DATA

DUSTER / MIST BLOWER

DM-4610

DM-6110

INTRODUCTION

We are constantly working on technical improvement of our products. For this reason, technical data, equipment and design are subject to change without notice. All specifications, illustrations and directions in this SERVICE DATA are based on the latest products information available at the time of publication.

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Reference No. **20-44A-01**

REVISED: 199909

ISSUED: 199902



KIORITZ CORPORATION

1 SERVICE INFORMATION

1-1 Specifications

Model			DM-4610		DM-6110	
Dimensions	Length*	mm(in)	400 (15.7)		400 (15.7)	
	Width*	mm(in)	505 (19.9)		505 (19.9)	
	Height*	mm(in)	680 (26.8)		680 (26.8)	
Dry weight *		kg(lb)	10.6 (23.4)	10.4 (22.9)	10.7 (23.6)	10.5 (23.1)
Engine	Type		KIORITZ, air-cooled, two-stroke, single cylinder			
	Rotation		Counterclockwise as viewed from the output end			
	Displacement	cm ³ (in ³)	44.0 (2.684)		58.2 (3.550)	
	Bore	mm(in)	40.0 (1.575)		46.0 (1.811)	
	Stroke	mm(in)	35.0 (1.378)		35.0 (1.378)	
	Compression ratio		6.5		6.4	
	Carburettor	Type		Diaphragm, horizontal-draught, with primer		
Model			TK K13PR-6E		TK K15PR-5C	
Venturi size-Throttle bore		mm(in)	13.0 - 13.0 (0.512 - 0.512)		15.0 - 15.0 (0.591 - 0.591)	
Ignition	Type		CDI (Capacitor discharge ignition) system in a single integrated piece			
	Spark plug		BPMR7A			
Starter	Type		Automatic rewind			
	Rope diameter x length	mm(in)	3.8 x 1400 (0.15 x 55.1)			
Fuel	Type		Premixed two-stroke fuel (Refer to Operator's manual.)			
	Tank capacity	liter(US.fl.oz.)	1.8 (60.9)			
Chemical tank capacity		liter(gal)	23 (6.08)	13 (3.4)	23 (6.08)	13 (3.4)
Blower	Fan type		Centrifugal (single stage)			
	Maximum air volume (with pipes)	m ³ /min(ft ³ /min)	10.0 (353)		12.0 (424)	
	Maximum air velocity (with pipes)	m/s(mph)	83 (186)		95 (213)	
	Discharge pipe ID	mm(in)	56 (2.20)		56 (2.20)	
Dusting maximum discharge		kg/min(lb/min)	5 (11.0)		5 (11.0)	
Misting maximum discharge		liter/min(gal/min)	4.3 (1.14)		4.6 (1.22)	
Granule maximum discharge		kg/min(lb/min)	15 (33.1)		18 (39.7)	

ID: Inner diameter.

*Without blower pipes.

1-2 Technical data

Model		DM-4610	DM-6110
Engine			
Slow speed	rpm	2500 - 2800	2500 - 2800
Rated speed	Dusting rpm	6800	7700
	Misting rpm	7100	8300
	Granule rpm	6700	7700
Compression pressure, standard	kg/cm ² (psi)	8.0 (115)	7.5 (110)
Carburettor			
Main jet		#64	#66
Ignition system			
Spark plug gap	mm(in)	0.6 - 0.7 (0.024 - 0.028)	
Minimum secondary voltage at 1000 rpm	kV	15	
Secondary coil resistance	kΩ	1.0 - 1.5	
Pole shoe air gaps	mm(in)	0.3 - 0.4 (0.012 - 0.016)	
Ignition timing	°BTDC	30	

BTDC: Before top dead center.

1-3 Torque limits

Descriptions		Size	kgf•cm	N•m
Starter system	Pawl carrier	M 8	250 - 350	25 - 34
	Starter case	M 4 *	15 - 20	1.5 - 1.9
Ignition system	Ignition coil (CDI module)	M 4	30 - 40	3.0 - 3.9
	Magneto rotor (Flywheel)	M10	250 - 350	25 - 34
	Spark plug	M14	130 - 170	13 - 16
	Dust cover	M 5	10 - 15	1.0 - 1.4
Fuel system	Carburettor	(DM-4610) M 5	25 - 45	2.5 - 4.4
		(DM-6110) M 6	50 - 70	4.9 - 6.8
	Fuel tank	M 6	30 - 40	3.0 - 3.9
Engine	Crankcase	M 5	30 - 40	3.0 - 3.9
	Cylinder	M 5	70 - 100	7 - 9
	Engine mount	M 5	30 - 40	3.0 - 3.9
	Engine cover	M 5	30 - 40	3.0 - 3.9
	Muffler	M 6	120 - 170	12 - 16
	Muffler bracket	M 5	30 - 40	3.0 - 3.9
Others	Fan case	M 5 †	30 - 35	3.0 - 3.4
	Fan	M 5 *	45 - 55	4.5 - 5.3
	Cushion	M 6	50 - 70	4.9 - 6.8
Regular bolt, nut, and screw		M 3	6 - 10	0.6 - 0.9
		M 4	15 - 25	1.5 - 2.4
		M 5	25 - 45	2.5 - 4.4
		M 6	45 - 75	4.5 - 7.3
		M 8	110 - 150	11 - 14

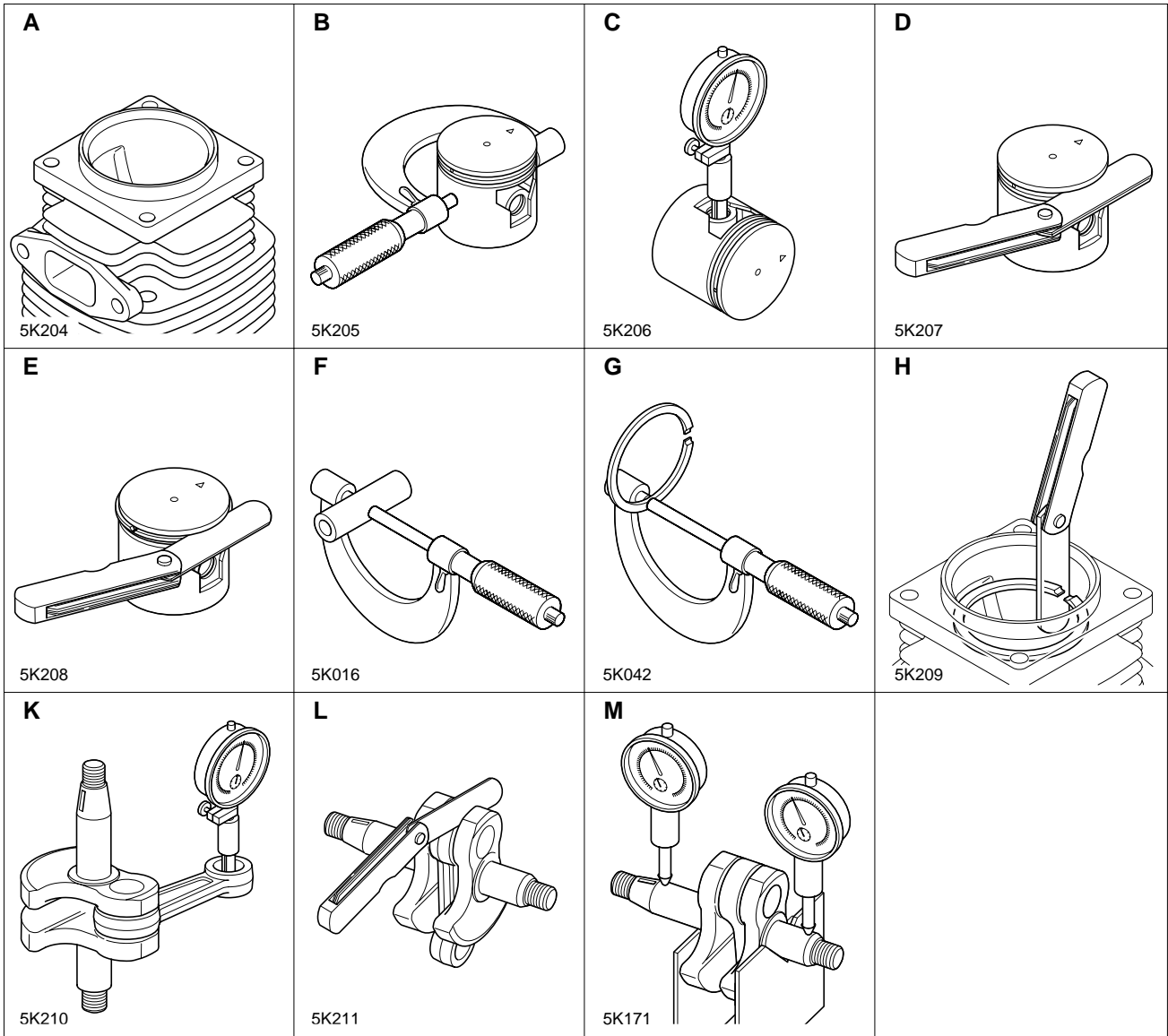
* Apply thread locking sealant. (See below.)

† Tapping screw

1-4 Special repairing materials

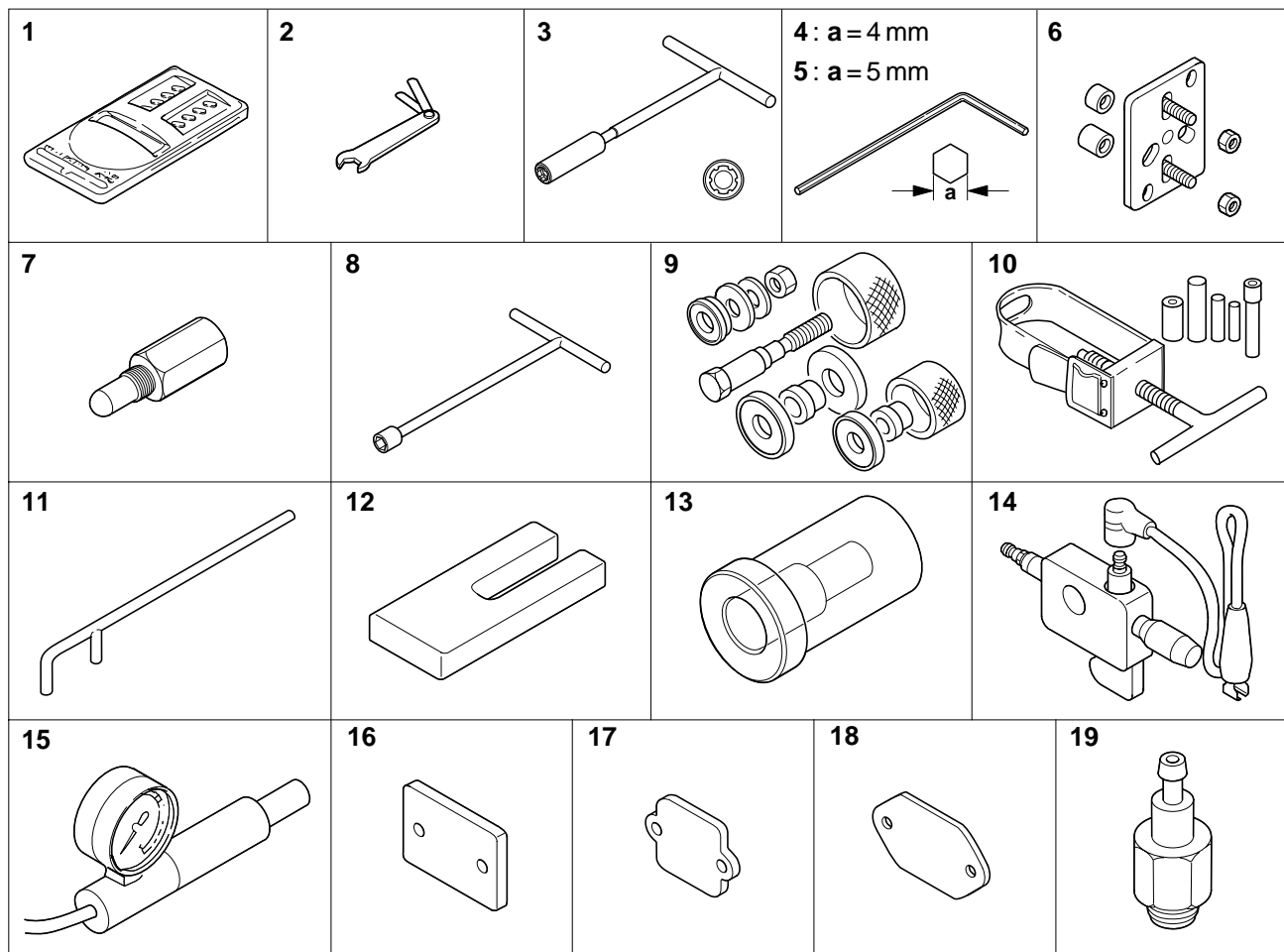
Material	Location	Remarks
Grease	Rewind spring	Lithium based grease
	Starter center post	
	Shutter shaft O-ring	
	Oil seal inner lips	
Thread locking sealant	Fan	Loctite #222, ThreeBond #1342, or equivalent
	Cushion screw	
	installing in fan case	
Sealant	Straight pin pressed in	Loctite superflex #594, ThreeBond #1212 or equivalent

1-5 Service limits



Description				DM-4610	DM-6110
A	Cylinder bore			When plating is worn and aluminum can be seen	
B	Piston outer diameter	mm (in)	Min	39.88 (1.570)	45.90 (1.807)
C	Piston pin bore	mm (in)	Max	10.025 (0.3947)	10.025 (0.3947)
D	Piston ring groove	mm (in)	Max	1.6 (0.063)	1.3 (0.051)
E	Piston ring side clearance	1st	mm (in) Max	0.1 (0.004)	0.15 (0.006)
		2nd	mm (in) Max	0.1 (0.004)	0.1 (0.004)
F	Piston pin outer diameter	mm (in)	Min	9.98 (0.3929)	9.98 (0.3929)
G	Piston ring width	mm (in)	Min	1.45 (0.057)	1.15 (0.045)
H	Piston ring end gap	mm (in)	Max	0.5 (0.02)	0.5 (0.02)
K	Con-rod small end bore	mm (in)	Max	14.025 (0.5522)	14.025 (0.5522)
L	Con-rod big end side play	mm (in)	Max	0.5 (0.02)	0.5 (0.02)
M	Crankshaft runout	mm (in)	Max	0.05 (0.002)	0.05 (0.002)

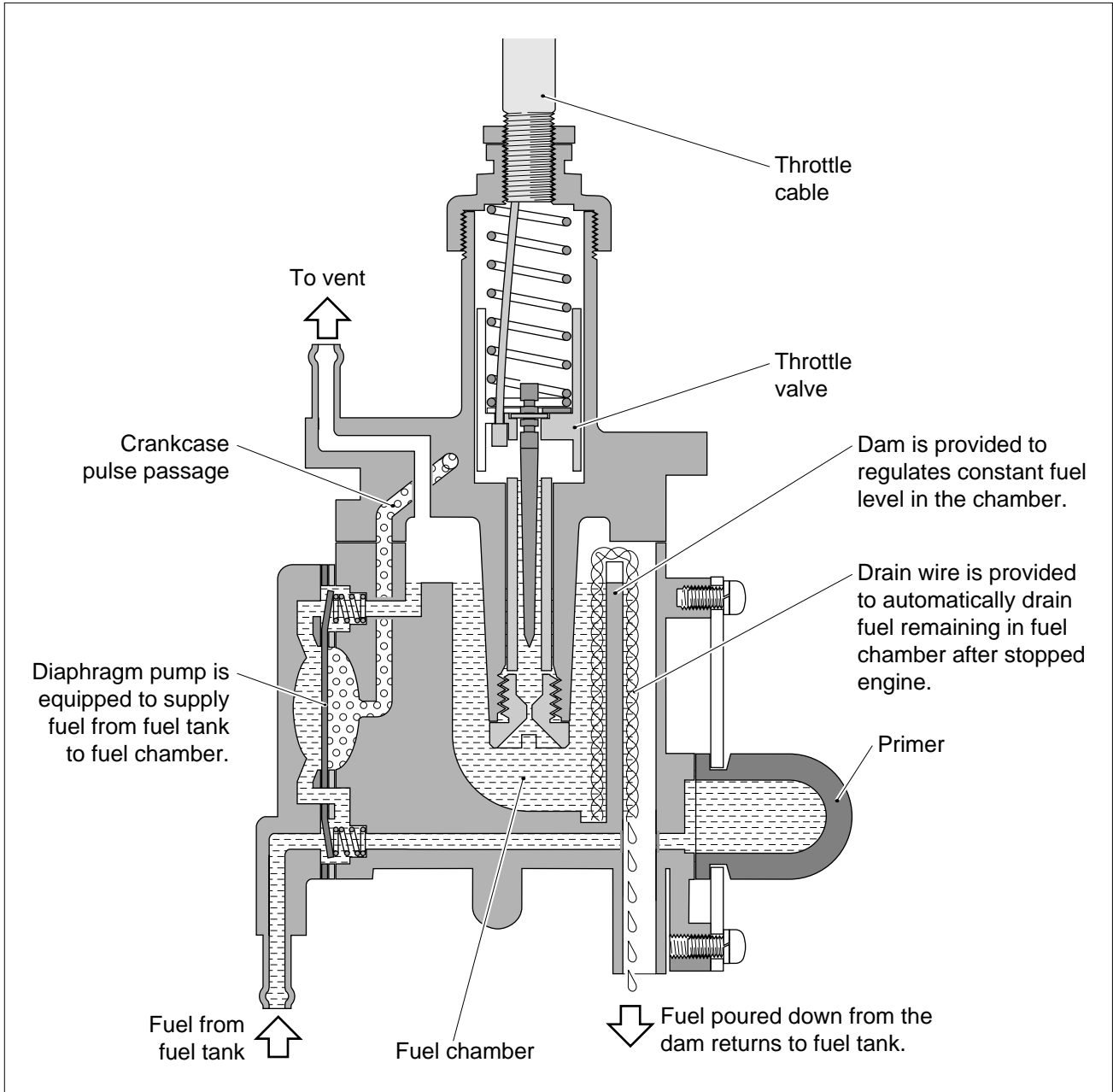
1-6 Special tools



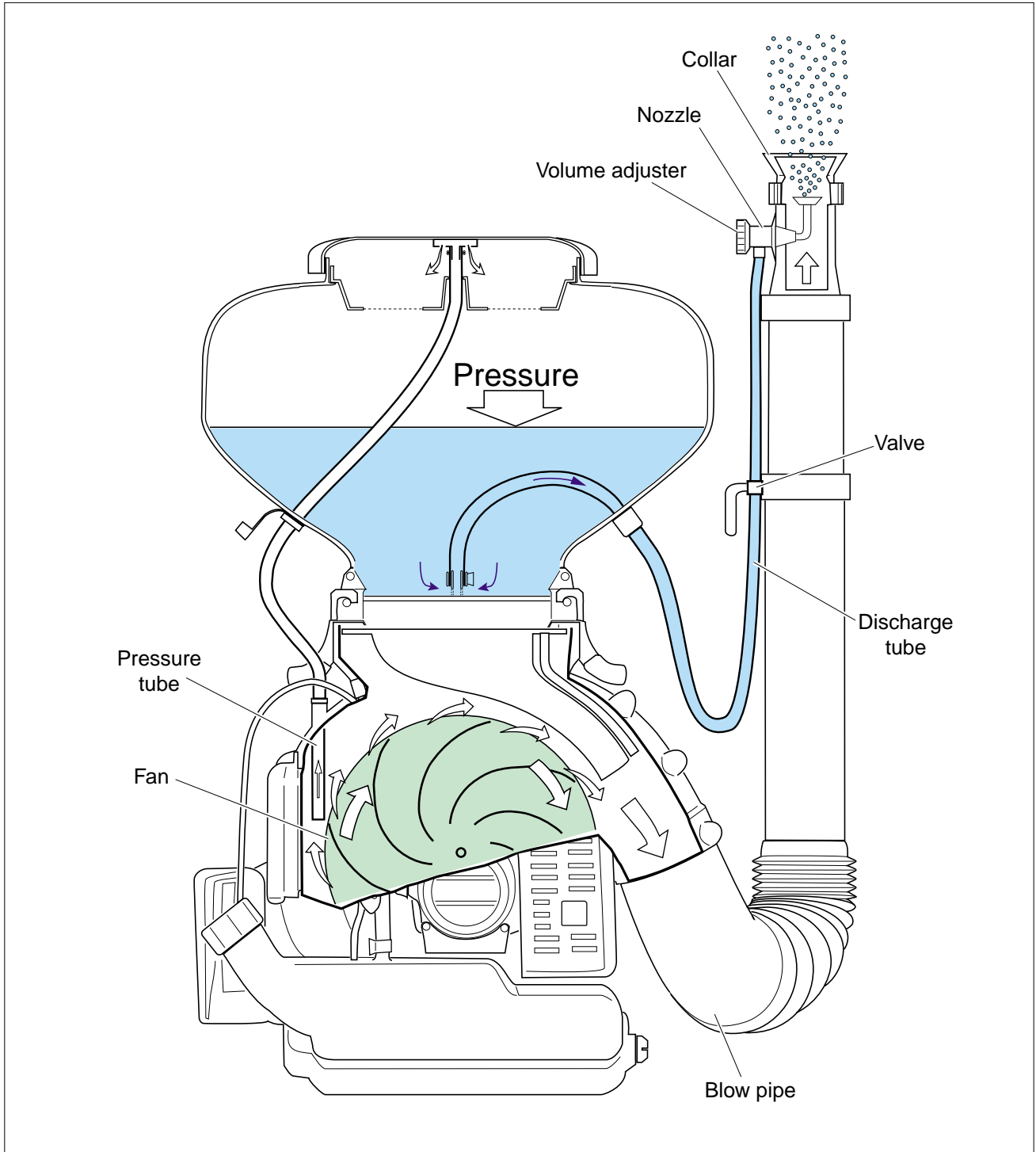
Key	Part Number	Description	Used for:
1		Tachometer	Measuring engine speed to adjust carburettor
2	895115-00330	Magneto wrench	Adjusting pole shoe air gaps
3	895317-03310	T-wrench	Removing and installing chemical tank holder screw
4	895610-79920	L-hex wrench (4 mm)	Removing and installing hex. socket bolts (M5)
5	895611-79920	L-hex wrench (5 mm)	Removing and installing hex. socket bolts (M6)
6	897501-03938	Puller	Removing magneto rotor
7	897537-30130	Piston stopper	Locking crankshaft rotation
8	897558-02830	T-socket wrench	Removing and installing hex. head bolt/nut (M6)
9	897701-14732	Bearing tool	Removing and installing crankcase ball bearings
10	897702-30131	Piston pin tool	Removing and installing piston pin (Use 10 mm dia. adapter.)
11	897712-04630	2-pin wrench	Removing and installing pawl carrier
12	897719-02830	Piston holder	Making piston steady to remove and install piston/rings
13	897726-16130	Oil seal tool	Installing crankcase oil seal
14	897800-79931	Spark tester	Checking ignition system
15	897803-30130	Pressure tester	Testing carburettor and crankcase leakage
16	897826-16131	Rubber plug	Testing crankcase and cylinder leakage
17	897827-16131	Pressure plate	Testing crankcase and cylinder leakage
18	897834-79930	Rubber plug	Testing crankcase and cylinder leakage
19	897835-16131	Pressure connector	Testing crankcase and cylinder leakage

2 SERVICE HINT

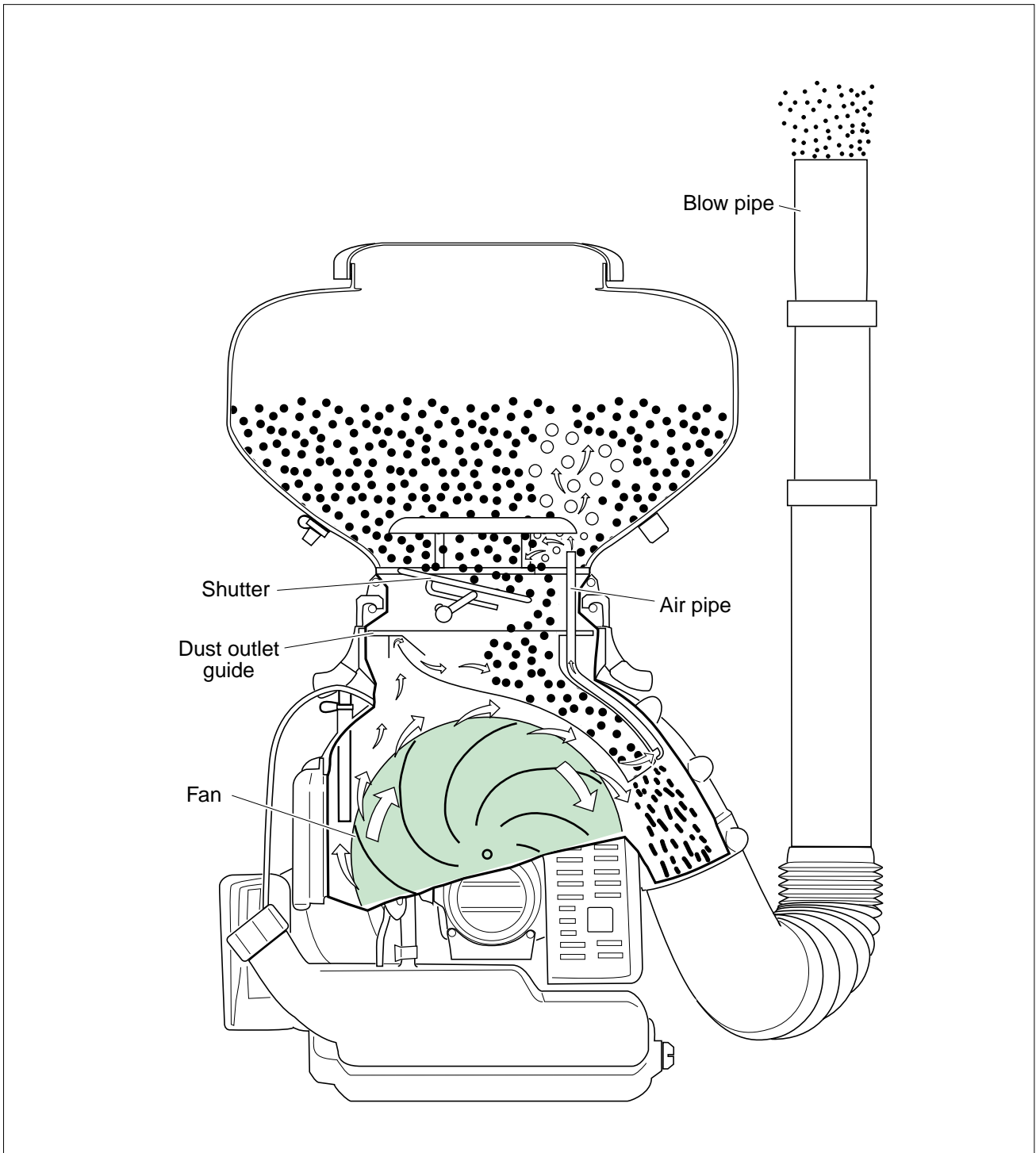
2-1 Carburettor construction



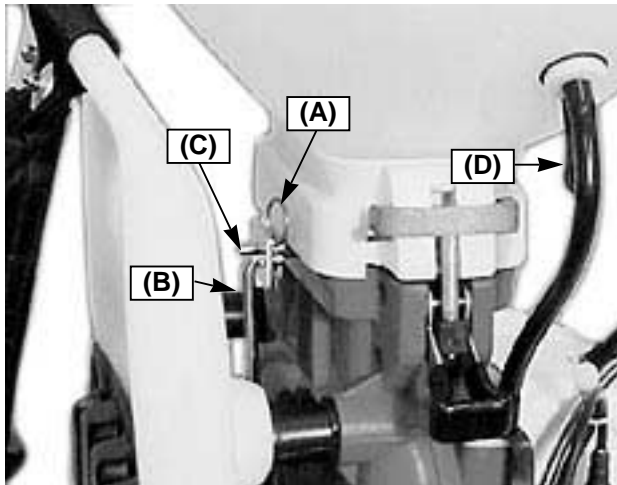
2-2 Mister cut view



2-3 Duster cut view

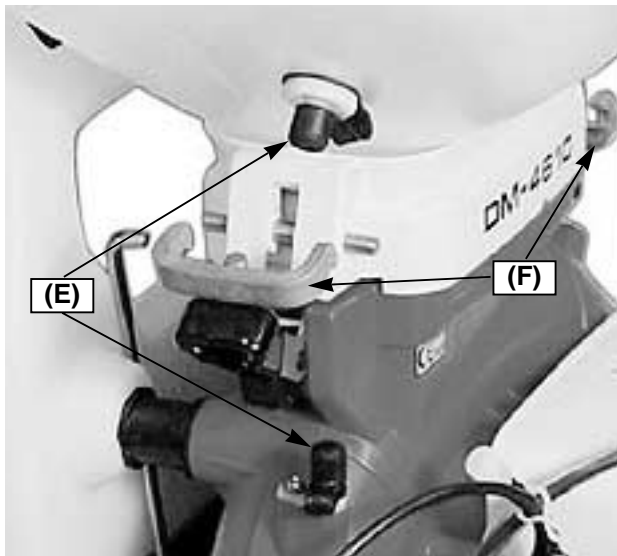


2-4 Mist Device Disassembly

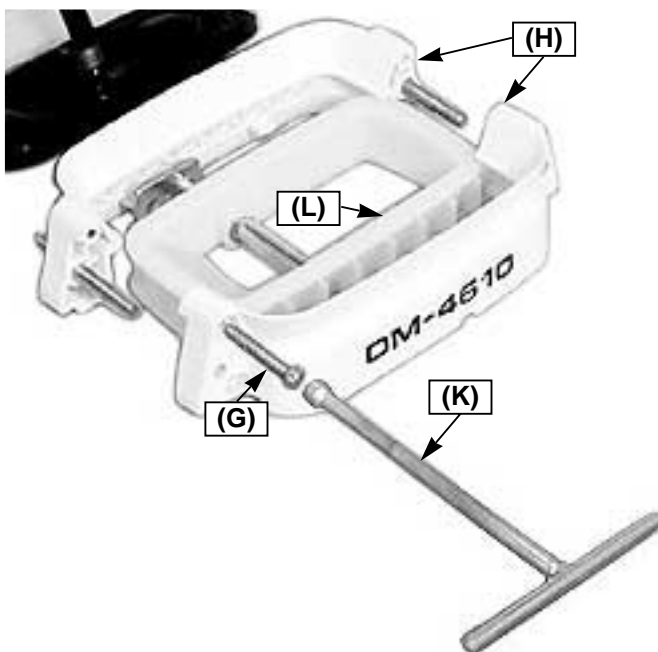


1. Pull out snap pin (A) and remove control lever rod (B) from straight pin (C) on lower tank.
2. Remove pipe (D) from chemical tank and fan case using slotted driver or equivalent.

NOTE: Be careful not to damage pipe (D) by slotted driver.

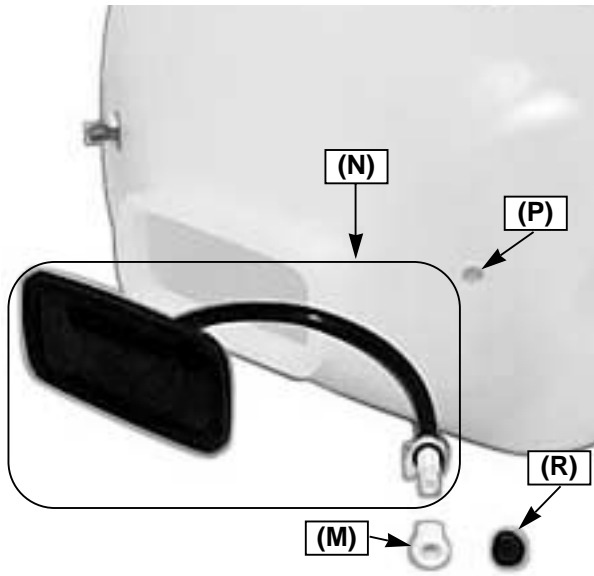


3. Plug two pipe connectors with rubber plugs (E).
4. Unfasten both hooks (F) and remove chemical tank assembly from fan case.



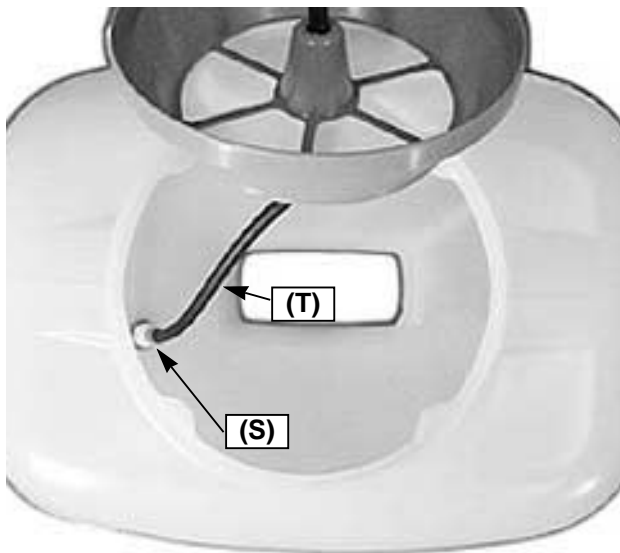
5. Remove 4 screws (G) from chemical tank holders (H) using T-wrench (K)(Part# 895317-03310) and separate the holders.

NOTE: Keep lower tank (L) aside until next assembly of misting device.



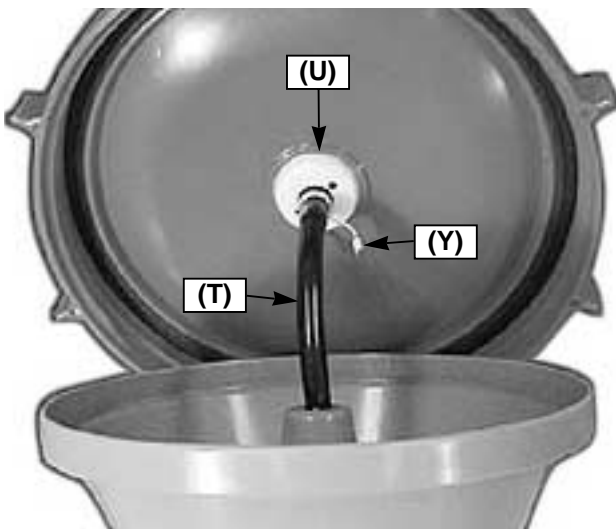
6. Remove hollow nut (M) and separate [tank bottom plate, pipe and outlet nipple] (N) from chemical tank.

7. Plug the hole (P) with rubber plug (R).



8. Remove clip (S) and pipe (T) from pipe connector using slotted driver or equivalent

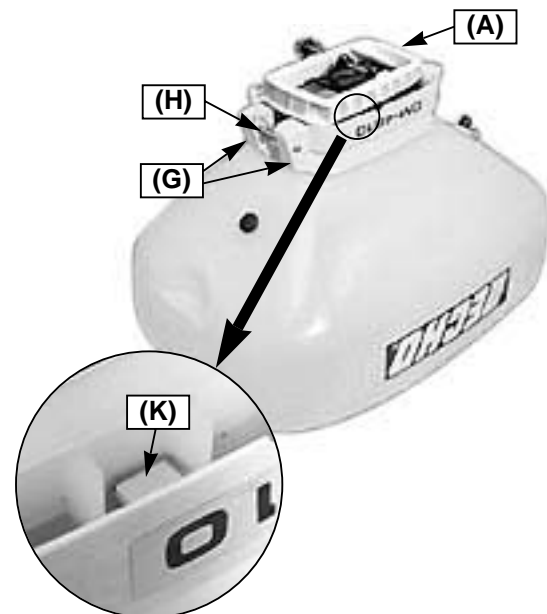
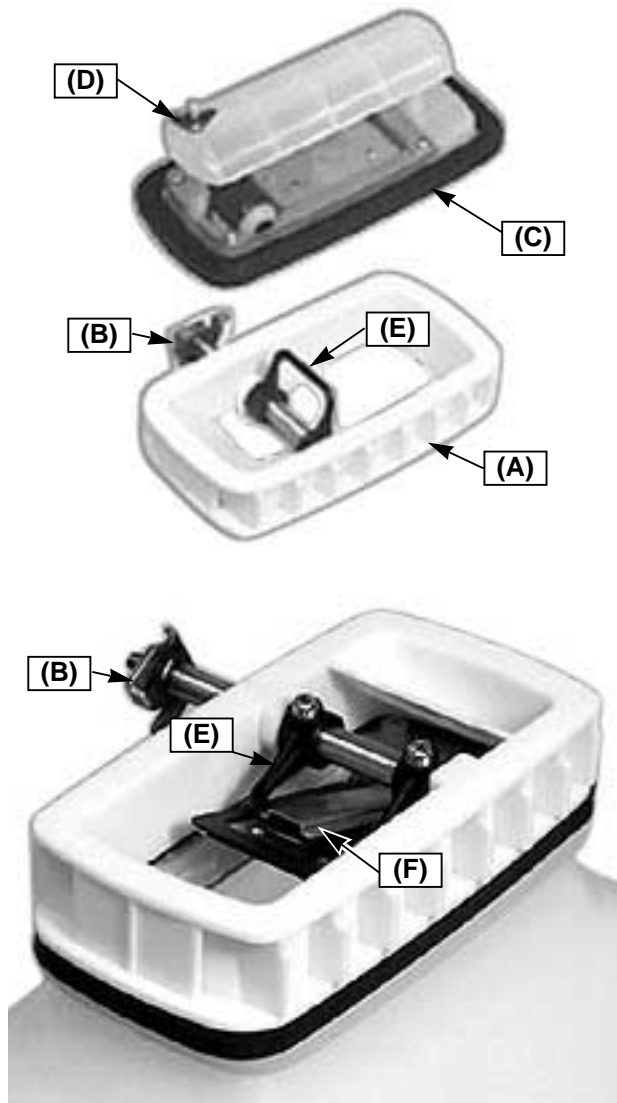
NOTE: Be careful not to damage pipe (D) by slotted driver.



9. Remove inside cap (U) from tank cap.

10. Keep aside clip (S), pipe (T), inside cap (U), filter (X) and clip (Y) for next assembly of misting device.

2-5 Dust Device Assembly



1. Place lower tank assembly (A) as shutter shaft (B) is located away from you.

2. Place shutter (C) as butterfly nut (D) being on your left side.

3. Place shutter (C) on lower tank assembly (A) as engaging shutter arm (E) with hook of shutter (F).

4. Turn over the shutter and lower tank assembly.

5. Place chemical tank with flange side up as ECHO mark side facing you.

6. Place shutter and lower tank assembly on top of chemical tank flange as shutter shaft (B) is located in opposite side from ECHO mark.

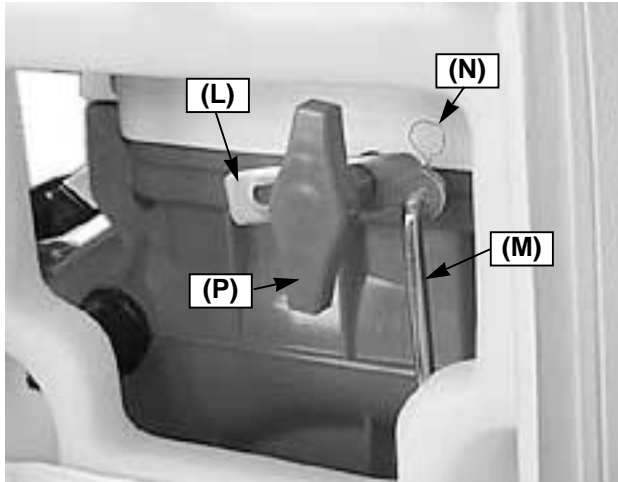
NOTE: Make sure that shutter arm (E) is engaged correctly with hook of shutter (F) as shown.

5. Place chemical tank holders (G) around lower tank assembly with tank holder pins (H) installed on both side.

NOTE: Make sure that lower tank assembly (A) is placed in position pressed by chemical tank holder hooks (K).

7. Fasten chemical tank holders (G) with 4 screws.

NOTE: Before fastening these tap screws, once turn screw anti-clockwise until the point that drops, from where start fastening clockwise or cause threads failure.



8. Hook chemical tank assembly onto fancase.
9. Connect shutter control arm (L) and control lever rod (M) with snap pin (N).
10. Fasten shutter control arm (L) with nut (P).

2-6 Shutter Control Arm Position

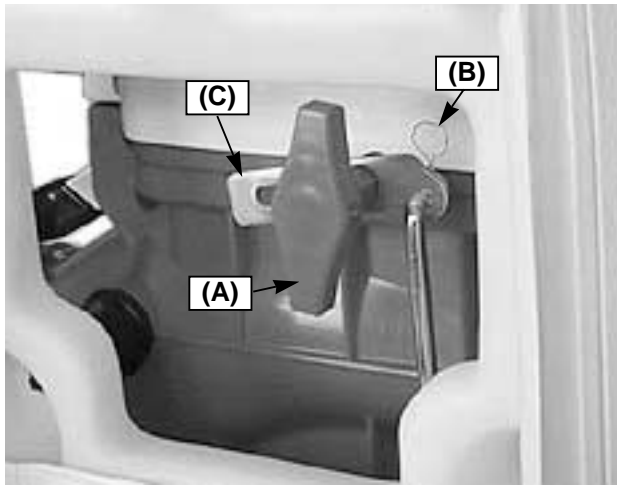


Suitable for small to medium volume discharge application such as powder or granule pesticide.
(Shutter does not open fully even when shutter control lever is set at top position (No.10).)

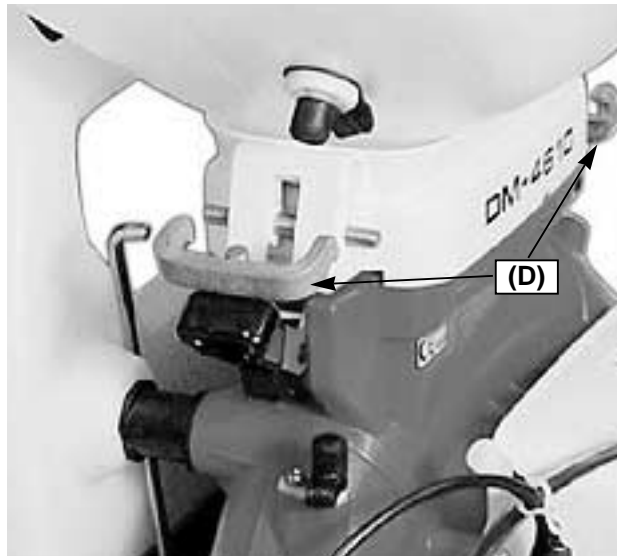


Suitable for large volume discharge application such as fertilizer.
(Shutter opens fully when shutter control lever is set at top position (No.10).)

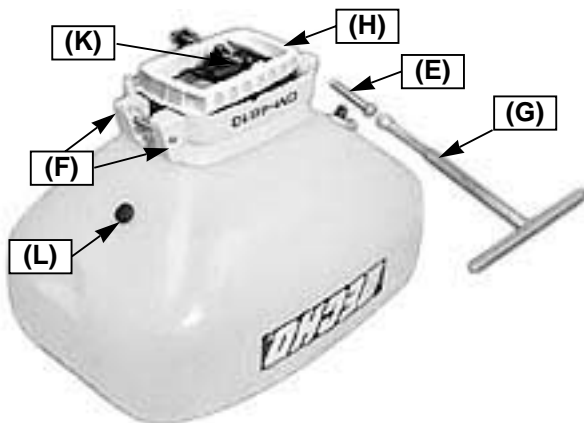
2-7 Dust Device Disassembly



1. Remove nut (A).
2. Remove snap pin (B) and shutter control arm (C).

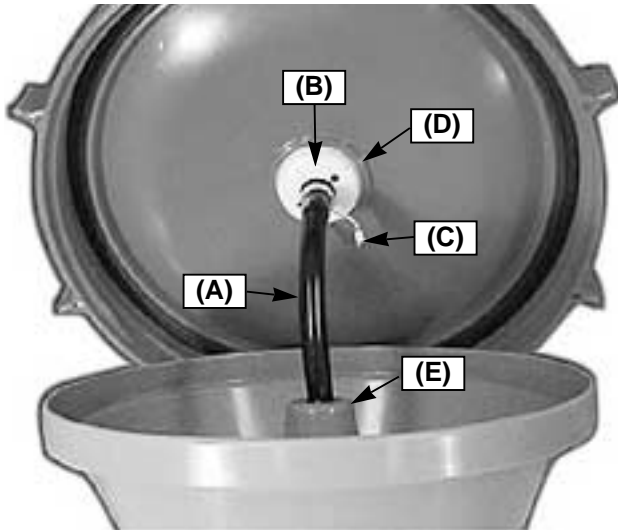


3. Unhook both tank holders (D) and separate the tank from fan case.

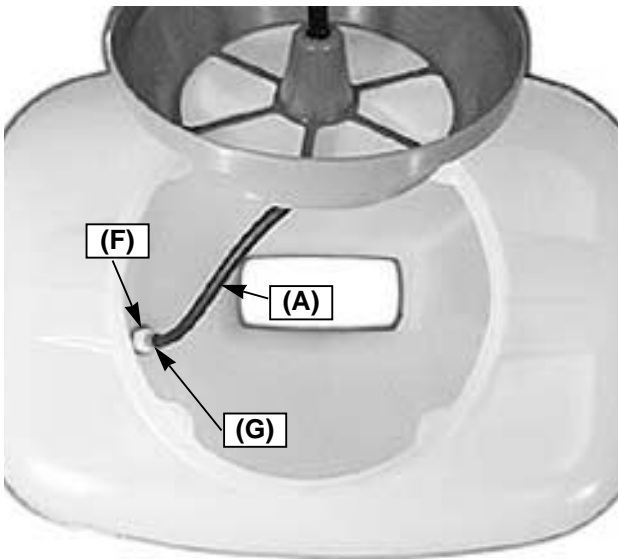


4. Turn over the tank and remove 4 screws (E) on chemical tank holders (F) using T-wrench (G).
5. Remove chemical tank holders (F), lower tank (H) and shutter (K).
6. Remove rubber plug (L).

2-8 Mist Device Assembly

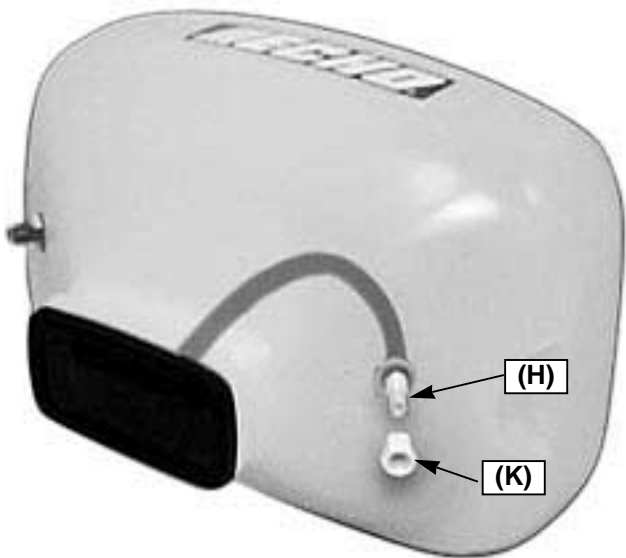


1. Install pipe (A) onto inside cap (B) and secure with clip (C).
2. Attach inside cap (B) to chemical tank cap (D).
3. Let pipe (A) go through filter (E) as shown.

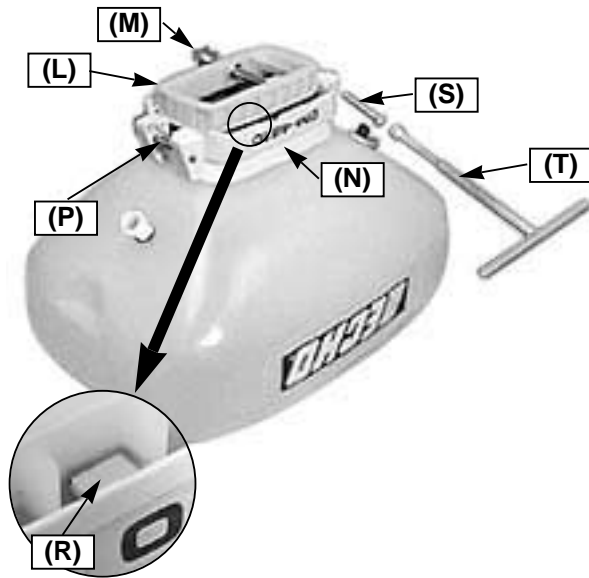


NOTE: Check pipe connector (F) and remove debris if they stuck in the connector.

4. Attach pipe (A) to pipe connector (F) and secure with clip (G).
5. Secure chemical tank cap (D) to the tank.



6. Let outlet nipple (H) go through chemical tank hole.
7. Secure outlet nipple (H) with hollow nut (K).



8. Place chemical tank up side down with ECHO mark side facing you.

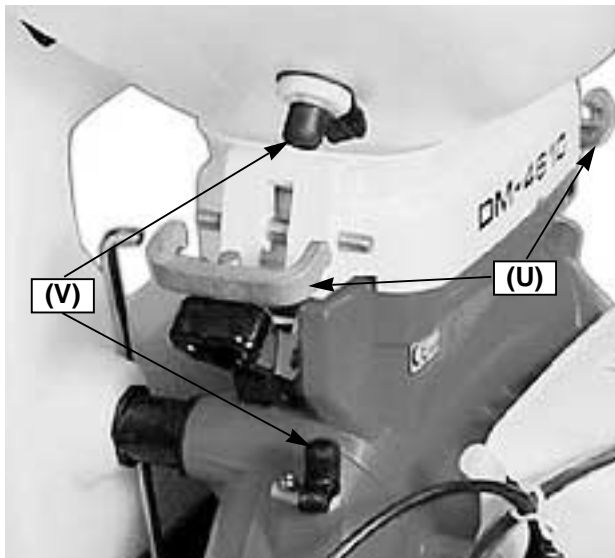
9. Place lower tank (L) on tank bottom plate as straight pin (M) is located away from you.

10. Place chemical tank holders (N) around lower tank with tank holder pins (P) installed on both side.

NOTE: Make sure that lower tank (L) is placed in position pressed by chemical tank holder hooks (R).

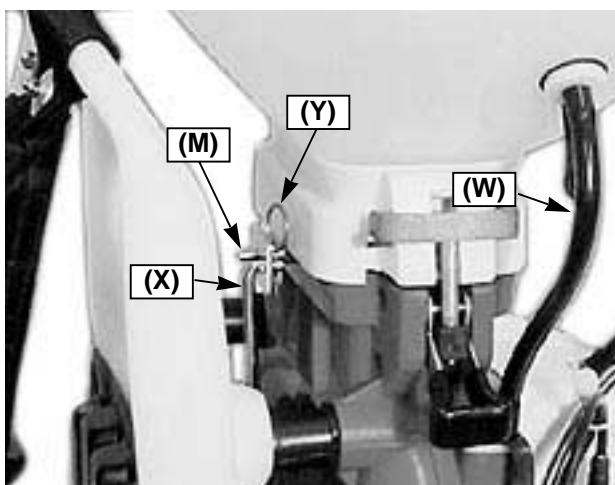
11. Fasten chemical tank holders with 4 screws (S) using T-wrench (T).

NOTE: Before tightening these tap screws, once turn screw ante-clockwise until the point that drops, from where start fastening clockwise or cause threads failure.



12. Place chemical tank assembly on fan case and secure with tank holders (U).

13. Unplug 2 rubber plugs (V).



14. Connect pipe (W) to both fan case and chemical tank.

15. Connect control lever rod (X) to straight pin (M) and secure with snap pin (Y).