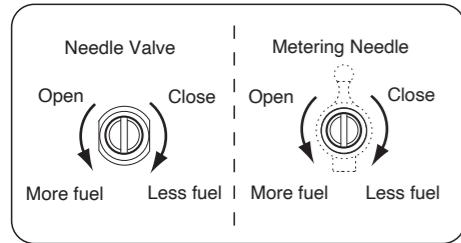




## FINAL ADJUSTMENT

Final adjustment should be carried out only after the running-in has been completed.



### 1. NEEDLE VALVE ADJUSTMENT

Run the vehicle (with throttle fully open) over the longest available straight course a few times to observe the model's speed. Return the vehicle to the starting point and close the Needle-valve 10~15° and repeat the run, taking note of the improvement in performance.

Continue with further runs, gradually reduce the Needle-valve setting aiming to achieve the highest straight-line speed (optimum position). Remember, however, if the Needle-valve is closed too far, the engine will overheat, accompanied by visibly diminished exhaust smoke and the model will lose speed. At this point, throttle down immediately, stop the vehicle and reopen the Needle-valve 30°.

### 2. METERING NEEDLE ADJUSTMENT

After setting the Needle-valve at optimum position, run the vehicle a few times at the straightway, and stop the vehicle. With the engine still running, close the throttle and allow it idle for about five seconds, then reopen the throttle fully.

If, at this point, the engine puffs out an excessive amount of smoke and the vehicle does not accelerate smoothly and rapidly or even stops, it is probable that the idle mixture is too rich. In this case, turn the Metering needle clockwise 30~45°.

If, on the other hand, the engine tends to speed up momentarily with little smoke and then cut out abruptly when the throttle is opened, the idle mixture is too lean. In this case, turn the Metering needle counter-clockwise 30~45°.

### 3. THROTTLE STOP SCREW ADJUSTMENT

If the engine runs too fast with the throttle closed, the throttle stop screw should be turned counter-clockwise to allow the throttle opening to be reduced.

### OPTIMUM MIXTURE CONTROL POSITION

With the optimum mixture control position, light smoke is visible during high speed running and the engine rpm increase smoothly during acceleration. Carry out adjustment 1~3. patiently until the engine responds quickly and positively to the throttle control. Remember that, if the engine is operated with the fuel/air mixture slightly too lean, it will overheat and run unevenly. As with all engines, it is advisable to set both the needle-valve and metering needle slightly on the rich side of the best rpm setting, as a safety measure. Finally, beyond the normal break-in period, a slight readjustment toward a leaner needle setting may be required to maintain maximum performance.

### Note:

Please regard the standard positions in the instruction manual as just a guide. Positions will vary due to the fuel and silencer used. In general, if a fuel containing less nitromethane is used, the needlevalve will need to be closed further. Remember, closing the needlevalve too far can cause rusting and damage to the engine.

### CARE AND MAINTENANCE

1. The minute particles of foreign matter, that are present in any fuel may, by accumulating and partially obstructing fuel flow, cause engine performance to become erratic and unreliable. O.S. 'Super-Filters' (large and small) are available, as optional extras, to deal with this problem. One of these filters installed to the pickup tube inside your refueling container, will prevent the entry of foreign material into the fuel tank. It is also recommended that a good in-line filter be installed between the tank and carburetor.

2. Do not forget to clean the filters regularly to remove dirt and lint that accumulate on the filter screens. Also, clean the carburetor itself occasionally.

3. At the end of each operating session, drain out any fuel that may remain in the fuel tank. Afterwards, energize the glow-plug and try to restart the engine, to burn off any fuel that may remain inside the engine. Repeat this procedure until the engine fails to fire. Do this while the engine is still warm.

4. Then, inject some after-run oil into the engine, and rotate the engine with an electric starter for 4 to 5 seconds to distribute the oil to all the working parts.

### Note:

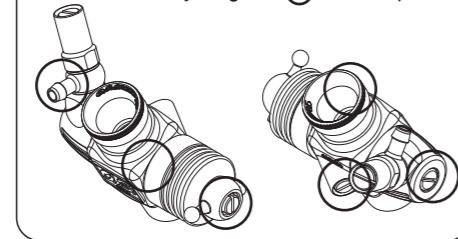
Do not inject after-run oil into the carburetor as this may cause the O-rings inside the carburetor to deteriorate. These procedures will reduce the risks of starting difficulties or corrosion after a period of storage.

5. Finally, when cleaning the exterior of the engine, use methanol or a household cleaning agent. Do not use gasoline, kerosene, or any petroleum based chemical which can damage silicone fuel tubing.

### Note:

Crankshaft of this engine is filled with silicone. Do not use light oil nor kerosene, etc. for washing, or the silicone will swell. Use alcohol or fuel for washing and dry it completely.

Dirt and dust may lodge in marked places.



### REMOVING DIRT/STAIN

Dirt and stain stuck on the engine and silencer/manifold cause lowering heat dissipation effect. When dirt and stain are detected, remove the engine from the chassis and clean it with alcohol.

### INATALLING DUST CAPS

When storing the engine, install the cap on the exhaust port, carburetor, etc. to prevent dust from entering the engine.

### CHECKING THE ENGINE

If the engine will not develop normal performance after long time running due to wearing of parts. It is suggested to replace necessary parts when the following symptoms are detected.

- ◆ Engine sound changes and easily overheats.
- ◆ Power has dropped extremely.
- ◆ Idle is unstable and/or engine tends to stop at idle.

In most cases, ball bearings, cylinder & piston assembly, connecting rod and/or crankcase have become worn. Check the parts carefully and replace them if necessary.

## O.S. GENUINE PARTS & ACCESSORIES

### T SERIES PLUG

- RP6 (71642060) • RP7 (71642070)
- RP8 (71642080)

### O.S. SPEED T SERIES PLUG

- RP6 (71642740) • RP7 (71642750)

### TR01 EFRA2098 (T-2080SCII) COMPLETE SET (72106852)

- TR01 EFRA2098 (T-2080SC) Tuned Silencer Assembly (72106851)

### MR02 Exhaust Header Pipe Assembly (72106490)

### TR02 EFRA2165 COMPLETE SET (72106970)

- TR02 EFRA2165 Tuned Silencer Assembly (72106971)

### MR02 Exhaust Header Pipe Assembly (72106490)

### INDUCTION SILENCER (72414000)

- Induction Silencer Filter (3pcs.) (72414100)

### O.S. SPEED FILTER OIL (ON-ROAD) (20ml) (72414210)

### SUPER AIR CLEANER 202 ASSEMBLY On-road Type (72412000)

- 202 Cleaner Body (72412100)
- 202 Filter Element (4pcs.) (72412200)

### O.S. SPEED FLYWHEEL COLLET (2pcs.) (71801110)

### PRESSURE CHAMBER SET (71550000)

### O.S. SPEED CLUTCH BEARING (1050ZZ 4pcs.) (71550001)

### O.S. SPEED CLUTCH BEARING (1050ZZ 10pcs.) (71550002)

### O.S. SPEED SILICONE TUBE (72506100) 2.5mm x 1000mm

### O.S. SPEED EXHAUST SEAL RING (2pcs.) (22826140)

### O.S. SPEED EXHAUST SEAL RING (10pcs.) (22826145)

### O.S. SPEED DUST CAP SET FOR 12-30 CLASS 3mm(2pcs.) / 16mm(2pcs.) / 18mm(1pc.) (22884254)

### DUST CAP SET 3mm (5pcs.) (73300305)

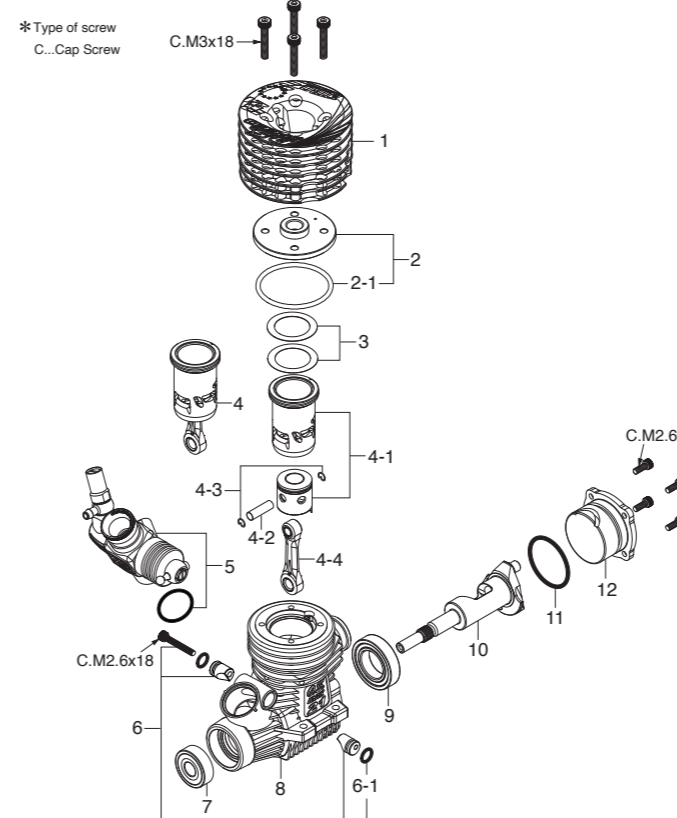
### DUST CAP SET 16mm (3pcs.) (73301612)

### DUST CAP SET 18mm (3pcs.) (73301812)

### O.S. SPEED MAINTENANCE OIL (71430010)

### O.S. SPEED TOOLS

## ENGINE EXPLODED VIEW

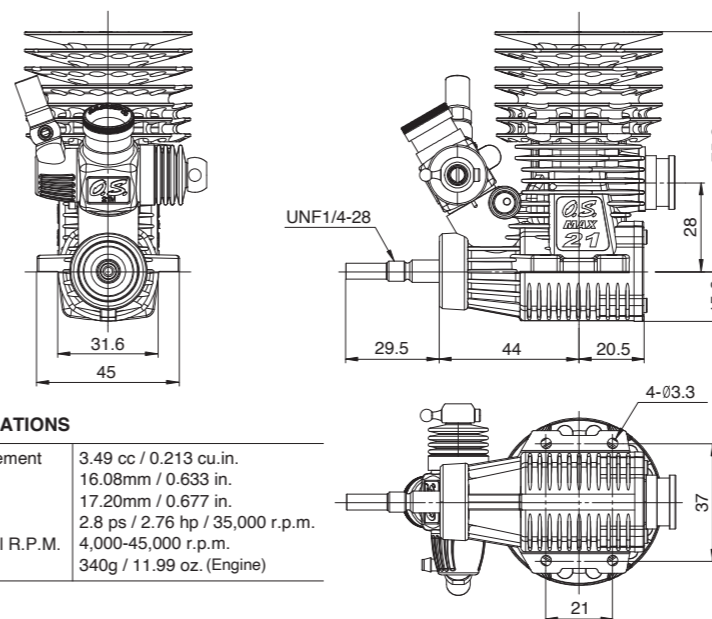


### COMBO SET

Code No.	Description
72106852	TR01 EFRA2098 (T-2080SCII) Complete Set
72106851	TR01 EFRA2098 (T-2080SC) Tuned Silencer Assembly
72106042	Joint Spring (3pcs.)
	Exhaust Seal Ring
72106490	MR02 Exhaust Header Pipe Assembly
72101272	Exhaust Header Pipe Spring (2pcs.)
	Exhaust Seal Ring

### THREE VIEW DRAWING

Dimensions (mm)



### SPECIFICATIONS

Displacement	3.49 cc / 0.213 cu.in.
Bore	16.08mm / 0.633 in.
Stroke	17.20mm / 0.677 in.
Output	2.8 ps / 2.76 hp / 35,000 r.p.m.
Practical R.P.M.	4,000-45,000 r.p.m.
Weight	340g / 11.99 oz. (Engine)

## ENGINE PARTS LIST

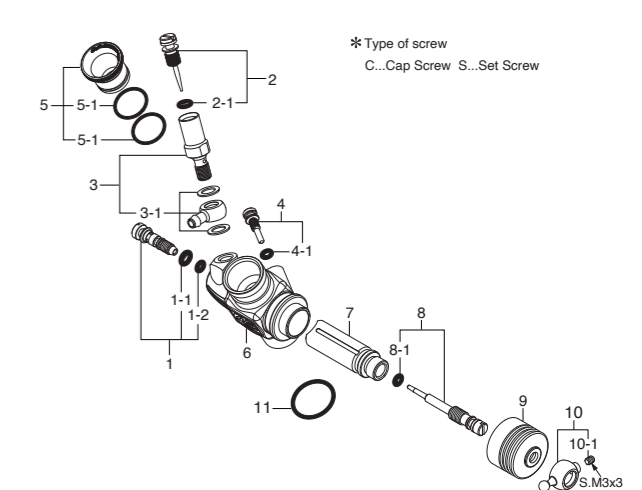
No.	Code No.	Description
* 1	2DR04000	Outer Head
2	2C604100	Inner Head
2-1	2DA04180	Inner Head "O" Ring (BLACK)
3	2A004160	Head Gasket Set (0.1mm / 0.15mm)
* 4	2DR03010	Built-Up Parts Set
* 4-1	2DR03000	Cylinder & Piston Assembly
4-2	22016000	Piston Pin
4-3	2AP17000	O.S. SPEED Piston Pin Retainer 2 (6pcs.)
4-4	23755024	Connecting Rod w/piston pin retainers (3pcs.)
5	2A081001	Carburetor Complete (Type 21M2(B))
6	23981740	Carburetor Retainer Assembly
6-1	24881824	"O" Ring (2pcs.)
7	23731000	Crankshaft Ball Bearing (Front)
8	2DJ01000	Crankcase
9	23730020	Crankshaft Ball Bearing (Rear)
* 10	2DR02000	Crankshaft
11	23107100	Cover Gasket
12	2A007000	Cover Plate
	71642070	T Series Plug RP7
		Exhaust Seal Ring
		Flywheel Collet
	22884250	Dust Cap Set (φ3,φ16,φ18 1pc. each)

\* marked parts are available only for limited period (one year after finishing the production).

### CAP SCREW SETS (10pcs./set)

Code No.	Size	Pcs. used in an engine
79871020	M2.6x7	Cover Plate Retaining Screw (4pcs.)
79871055	M2.6x18	Carburetor Retainer Retaining Screw (1pc.)
79871180	M3x18	Cylinder Head Retaining Screw (4pcs.)

## CARBURETOR EXPLODED VIEW



### CARBURETOR PARTS LIST

No.	Code No.	Description
1	22082600	Mixture Control Valve Assembly
1-1	46066319	"O" Ring (L) (2pcs.)
1-2	22781800	"O" Ring (S) (2pcs.)
2	22082970	Needle Assembly
2-1	46066319	"O" Ring (2pcs.)
3	22082940	Needle Holder Assembly
3-1	22082950	No.15 Universal Nipple Assembly
4	22848160	Throttle Stop Screw
4-1	27881820	"O" Ring (S) (2pcs.)
5	71533085	Carburetor Reducer (8.5mm Red)
5-1	22615000	"O" Ring (1pc.)
6	22082110	Carburetor Body
7	22082200	Slide Valve
8	2A081610	Metering Needle Assembly
8-1	27881820	"O" Ring (S) (2pcs.)
9	23981520	Dust Cover
10	23781400	Ball Link No.3
10-1	26381501	Set Screw (1pc.)
11	29015019	Carburetor Rubber Gasket

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