Operator Manual cum Parts Catalogue for KMW – MIN T 5 PETROL

FOREWORD

KIRLOSKAR OIL ENGINES, LIMITED (KOEL) congratulates you for becoming a prestigious customer of KOEL by purchasing the MINT 5 P

Read, Understand and follow all instructions on the machine and in the manual before attempting to operate.
The Operator Manual covers important usage instructions & guidelines on machine operating procedures, safety instructions, warranty policy, Dos and Don'ts, troubleshooting, periodic service maintenance schedule and Parts catalogue.

Register your product warranty by submitting duly filled warranty registration Card to KOEL dealer. We are providing three labor free Services within six month of purchase, requested to utilize our services according to the service maintenance schedule mentioned in the operator manual.

This Manual Cover's all variants of MINT 5 P Power Weeder. Please refer relevant details only applicable for your Machine.

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1. MINT 5 P Warranty Period and Warranty Policy Guide Lines

1.1 Warranty Period

Sl. No.	Product	Warranty Coverage
1	Machine (Engine, Transmission)	6 months or 250 operational hours whichever is earlier from Date of Sale to First Purchaser
2	Proprietary parts, Like: Carburetor, Spark plug, Tyre, etc.	Warranties for Proprietary parts are subject to respective manufactures as per their warranty policy and guidelines.
3	Accessories / Implements	Will not be covered

1.2 Warranty Policy Guide Lines

1. The warranty period shall start from the date of purchase of product and applicable to the first purchaser on receipt of the warranty Registration Card.
2. The warranty only covers the manufacturing defect or defective part within the specified warranty timeframe only.
3. The warranty will cease if Service maintenance is not carried out as per periodical maintenance schedule.
4. Warranty voids if KOEL genuine parts or approved blades are not used on machine during periodical maintenance.
5. The warranty will not cover for normal wear & tear of parts such as clutch plate, rubber parts, plastic parts, electrical parts.
6. Under warranty period, only repair or replacement of defective parts will be considered, replacement of the machine is not warranted.
7. Warranty is not transferable to the second and subsequent owners.
8. The warranty ceases if the machine is serviced or repaired by unauthorized persons or at any Local workshop.
9. The warranty will not cover for any accidental damage, fire, collision, improper usage, tampering, customer abuse and external modifications/fabrications done by the customer.

KOEL reserves the right to refuse warranty if the product was found not to be carried periodical maintenance & installed as per our installation instructions.

1.3 WARRANTY REGISTRATION CARD / Sales Intimation Card

MINT 5P Details			
Model		**Invoice No.**	**Invoice Date**
Engine No.			
Frame No.		**Warranty Start Date**	**Warranty End Date**
Use of MINT	1) Forest Professionals 2) Orchard 3) Vegetable Crops 4) Hill Area 5) House Garden		

Customer Details			
Name			
Village			**PIN**
			District
City			
State			**Country**
Mobile / mail ID			**Date of Birth**
Customer Signature (I acknowledge that I have read, understood and I accept the warranty policy and terms.)		**Dealer's Seal & Signature**	

 Dealer has to maintain the photo copy of the WRC (Company Copy)

2. Technical Specifications

Power Weeder Specifications		
	Product	MIN T 5 P
Engine	**Model**	CCP196
	Bore X Stroke	68mm x 54mm
	Displacement	196cc
	Compression Ratio	8.5:1
	Type	Single Cylinder, 4 Stroke, Air cooled, Petrol engine
	Power	5 HP
	Rated rpm	3600 rpm
	High Idle rpm	3800 rpm
	Max Torque(rpm)	12.4Nm @ 2500 rpm
	Type of Starting	Recoil Type Manual
	Lubrication System	Splash Lubrication
	Ignition System	Spark Ignition
	P.T.O. Shaft Rotation	Anti-Clockwise
	Air Cleaner	Oil bath type
	Fuel Tank Capacity	3.5 liters
	Fuel Consumption	< 395 g/kWh

Transmission	**No. of Speeds**	3 (2 forward + 1 reverse)
	Working speed	0.38 – 1.08 kmph
	Clutch	Frictional multi disc
Rotary Tiller	**Rotation**	120 rpm(Fast) & 70 rpm(Slow)
	Blades (nos.)	32
	Tilling Width	1050 mm.
	Tilling depth	≥100 mm
Tyre size		4.00 – 8, 2 Ply
Dimension L * W * H (mm)		1450 X 1000 X 1050
Weight		65 kgs

3. Safety Precautions Do's and Don'ts

3.1 Safety Precautions of MINT 5 P

1. Read and follow the owner's manual and safety instructions carefully before operating.
2. Don't allow children to use the machine.
3. In general all moving parts particular shafts & blades shall be treated as dangerous

3.2 DOs

Training

1. Read, Understand and follow all instructions on the machine and in the manual before attempting to operate. Keep this manual in a safe place for future and regular reference and for ordering replacement for parts.
2. Be familiar with all controls and their proper operations, know how to stop the machine and disengage them quickly.

A. Check the General Condition of the Engine

Look around and underneath the engine for signs of oil or gasoline leaks. Remove any excessive dirt or debris, especially around the muffler and recoil starter. Look for signs of damage. Check that all shields and covers are in place, and all nuts, bolts, and screws are tightened.

B. Check the Engine

Check the engine oil level. Running the engine with a low oil level can cause engine damage. The Low Oil Alert System will automatically stop the engine before the oil level falls below safe limits. However, to avoid the inconvenience of an unexpected shutdown, always check the engine oil level before startup.

Check the air filter. A dirty air filter will restrict the flow of air to the carburetor, thereby reducing engine performance. Check the fuel level. Starting with a full tank will help to eliminate or reduce operating interruptions for refueling.

C. General - Operator should:

a) Be in good health, sound mind and be not under the influence of any sort of intoxicants;

b) Be adequately trained on MINT 5 P and when required;

c) Obtain and read the operator's manual before using the MINT 5 P for the first time; and when required.

d) Wear suitable non slip footwear, suitable hearing protection and comfortable clothing.

D. Before Starting MINT 5 P - Operator should:

a) Inspect the machine and make certain that it is properly adjusted and in good working condition;

b) Keep all controls in neutral before starting.

c) Check the oil level of engine and fuel level in tank.

d) Check the transmission oil level

e) Clear the work area of objects that might jam or wrap around the tines such as glass, large sticks, stones, metal objects, wire, rope, and string-like materials.

E. Maintenance & Storage - Operator should:

a) Only use genuine spare parts/accessories approved by MINT 5 P.

b) Keep machine, attachment and accessories in safe working order.

c) Apply Grease/Oil to all link, pins and rivets.

d) Check for tightness of all fasteners.

g) Wash and clean the machine periodically.

i) Keep Machine in level platform.

j) Store the machine in a well-ventilated place, protected from dampness and the weather.

k) Always store gasoline in an approved container. If fuel spills, make sure the area is dry before starting the engine.

l) Provide adequate ventilation for stationary equipment applications; keep the engine at least 1 meter away from building walls and other equipment during operation.

3.3 Don'ts

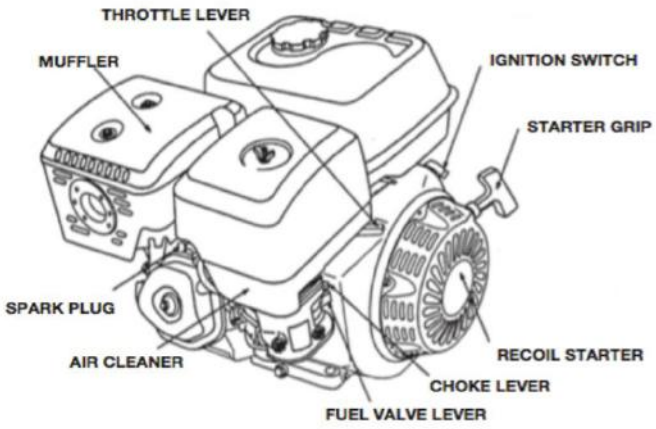
1. Do not put hands or feet near or under rotating parts.
2. Don't operate the MINT 5 P without any Demonstration training.
3. Do not operate if you found any leakage of Fuel or lubricants.
4. Never place your hands, feet, or any part of your body near or under any moving part while the MINT 5 P engine is running.
5. Do not touch the muffler and engine when the machine is in use.
6. Do not use this machine around large roots and surface rocks.
7. Do not use this machine around underground pipes and wiring.
8. Do not use machine when fuel leakage is observed near FIP, Injector and Fuel lines.

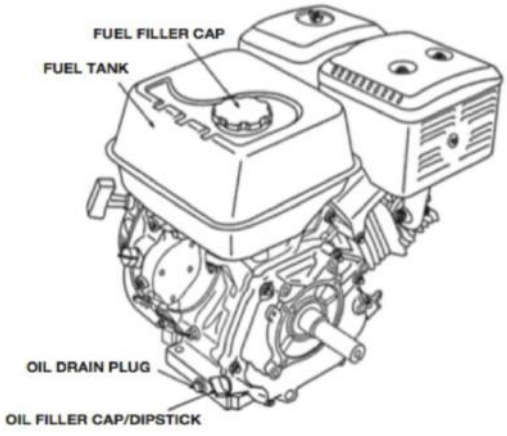
9. Do not operate the machine without good visibility.
10. Do not tamper with any safety devices or fittings.
11. Do not use unapproved attachments.
12. Don't use non recommended blades.
13. Disengage clutch before shifting gear.
14. Ensure gears are aligned properly during shifting and if not release clutch to align the gear.
15. Do not wear open-toed sandals or go barefoot when operating the machines.
16. Do not wear loose fitting, scarf, ties or jewels which might caught in the machine while operating.
17. Do not operate the MINT 5 P on terrain.
18. Do not store the fuel in Closed (Unventilated atmosphere) and in area where source of flames or sharks are there. Don't smoke while fueling.
19. Don't place flammable objects close to the engine.
20. Don't fuel a running or hot engine. Don't loosen the fuel cap while engine is running.
21. Don't smoke near gasoline, and keep other flames and sparks away.
22. Don't make any adjustment when the engine is in use.
23. Handle LH/RH and other levers to be used only for controlling the machine.
24. Do not inhale exhaust gas.
35. Never run the engine in a closed garage or confined area.

3.4 Recognize Decals Information's

An important safety incorporated into MINT 5 P is the warning and information decals found in various parts of the machine.

4. **Control & Equipment**

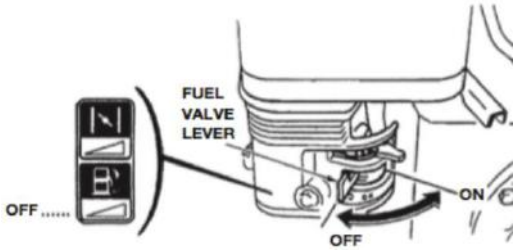
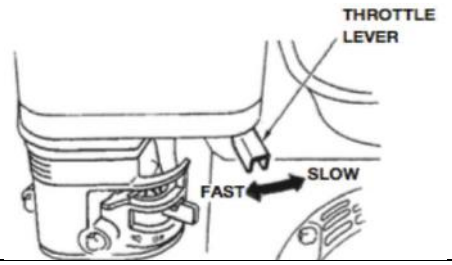
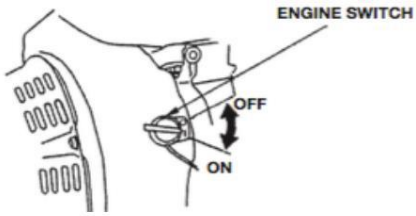
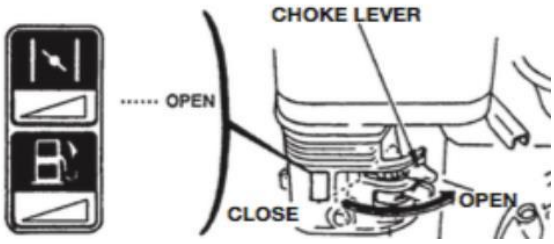
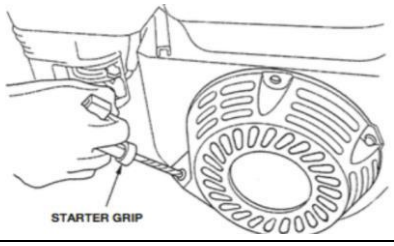




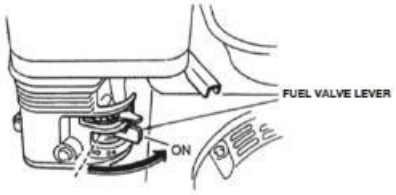
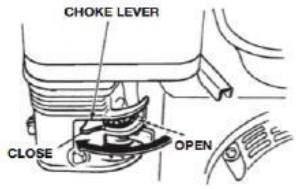
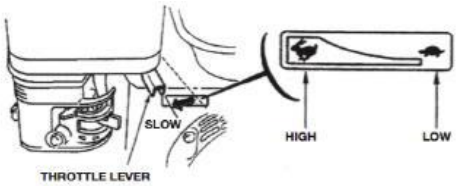
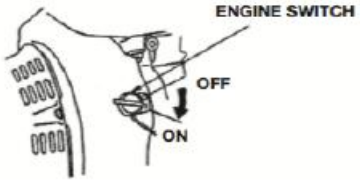
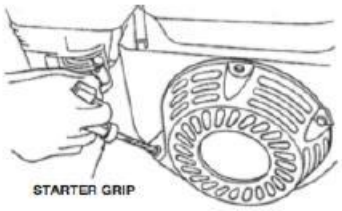
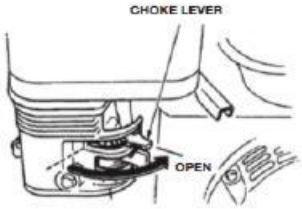
1) ACCELERATOR
2) CLUTCH LEVER
3) FORWARD LEVER
4) REVERSE LEVER
5) HANDLEBAR HEIGHT ADJUSTER
6) RESISTANCE BAR
7) TRANSMISSION OIL FILLER CAP
8) PROTECTING FENDER
9) TOOL BOX
10)FRONT STAND

5. Operating Instruction

5.1 Engine Controls

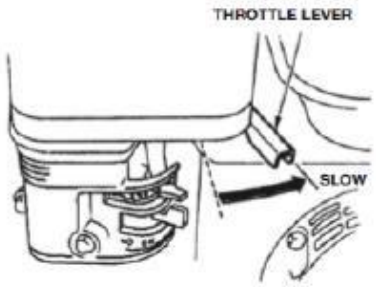
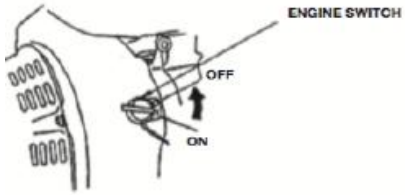
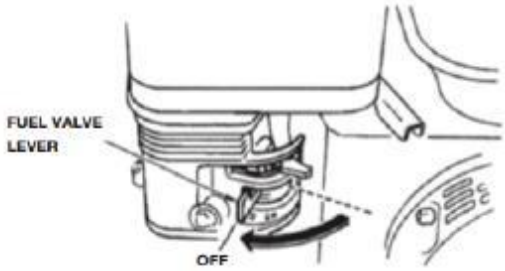
Fuel Valve Lever The fuel valve opens and closes the passage between the fuel tank and the carburettor. The fuel valve lever must in the ON position for the engine to run. When the engine is not in use, leave the fuel valve lever in the OFF position to prevent carburettor flooding and to reduce them possibility of the fuel leakage.	
Throttle Lever The throttle lever controls engine THROTTLE LEVER speed. Moving the throttle lever in the directions shown makes the engine run faster or slower	
Engine Switch The engine switch enables and disables the ignition system. The engine switch must be in the ON position for the engine to run. Turning the engine switch to the OFF position stops the engine.	
Choke Lever The choke lever opens and closes the choke valve in the carburettor. The CLOSE position enriches the fuel mixture for starting a cold engine. The OPEN position provides the correct fuel mixture for operation after starting, and for restarting a warm engine.	
Recoil Starter Grip Pulling the starter grip operates the recoil starter to crank the engine.	

5.2 Starting The Engine

1. Move the fuel valve lever to the ON position.	
2. To start a cold engine, move the choke lever to the CLOSE position. To restart a warm engine, leave the choke lever in the OPEN position.	
3. Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position.	
4. Turn the engine switch to the ON position.	
5. Operate the starter by pulling the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.	
6. If the choke lever has been moved to the CLOSE position to start the engine, gradually move it to the OPEN position as the engine warms up.	

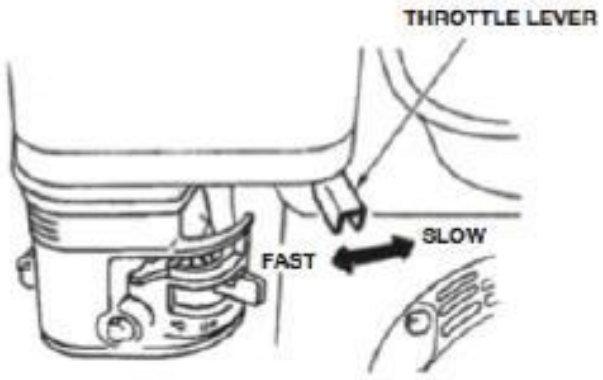
5.3 Stopping the Engine

To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, use the following procedure.

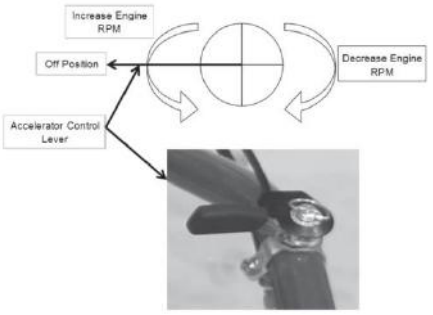
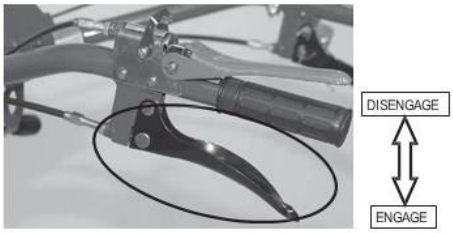
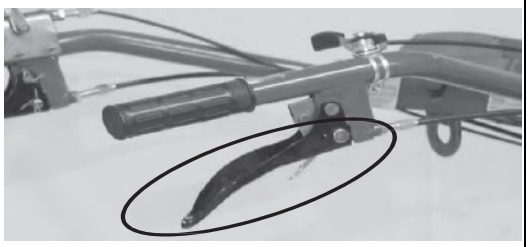
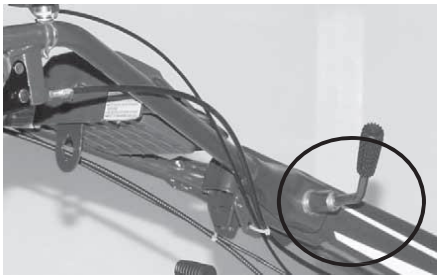
1. Move the throttle lever to the SLOW position.	
2. Turn the engine switch to the OFF position.	
3. Turn the fuel valve lever to the OFF position.	

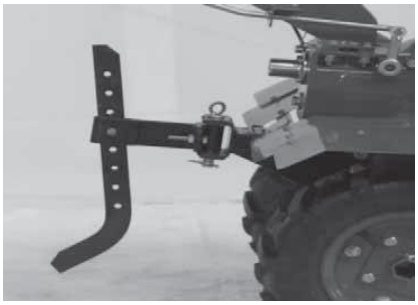
5.4 Setting Engine Speed

Position the throttle lever for the desired engine speed. For engine speed recommendations, refer to the instructions provided with the equipment powered by this engine



5.5 Transmission controls

Accelerator (Throttle) Control Lever The throttle lever controls the engine speed and tine rotations. Moving the throttle lever in the direction shown, run the engine faster or slower. To increase engine RPM, pull the lever to anti clockwise direction. To decrease engine RPM, push the lever to clockwise direction.	
Main clutch Lever The main clutch lever engages and disengages the transmission that drives the blades. It is located on left hand side to handlebar.	
Lever for Forward Speed The transmission offers a choice of fast & slow speed in forward direction.	
Lever for Reverse Speed Reverse speed lever with reverse lock located on right hand side of handlebar with identification sticker. To operate the reverse lever, reverse lock should be pressed along with reverse lever to operate in reverse gear.	
Handlebar Height Adjuster Handlebar height can be adjusted to match operator height. For normal tilling, most comfortable operator height is with the handlebars at waist height.	

Resistance Bar Resistance Bar controls tilling depth and should always be used when tilling. It enables you to compensate for the hardness of the soil. Ideal resistance bar height will depend on the type of soil being tilled and soil conditions at the time of tilling. In general, the resistance bar should be adjusted so that the tiller is tilted slightly backward	

6. Maintenance

The purpose of the maintenance schedule is to keep the tiller in the best operating condition. Inspect or service as scheduled in the table below. Remember that your service dealer knows your tiller best and is fully equipped to maintain and repair it.
To ensure the best quality and reliability, use only new, KOEL genuine parts for repair and replacement.

6.1 The Importance of Maintenance

Good maintenance of the engine is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution.

To help you properly care for your engine, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a technician or other qualified mechanic. The maintenance schedule applies to normal operating conditions. If you operate your engine under unusual conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

⚠ WARNING

Improperly maintaining this engine, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed.
Always follow the inspection and maintenance reccomendations and schedules in this owner's manual.

6.2 Maintenance Safety

Some of the most important safety precautions are as follows: However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

⚠ WARNING

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed.
Always follow the procedures and precautions in the owner's manual.

6.3 Safety Precautions

Make sure the engine is off before you begin any maintenance or repairs.
This will eliminate several potential hazards such as:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you operate the engine.
- Burns from hot parts. Let the engine and exhaust system cool before touching.
- Injury from moving parts. Do not run the engine unless instructed to do so.

Read the instructions before you begin, and make sure you have the tools and skills required.
To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks and flames away from all fuel-related parts.

Remember that your servicing dealer knows your engine best and is fully equipped to maintain and repair it. To ensure the best quality and reliability, use only new, genuine parts or their equivalents for repair and replacement.

6.4 Torque Values

SL. No.	DESCRIPTION	TORQUE VALUE
1	Cylinder Head Bolt	26-28 Nm
2	Crankcase Gear Casing Cover Bolts	24-26 Nm
3	Connecting Rod Big End Bolts	12 Nm
4	Flywheel Assembly Bolt	65 Nm
5	Rocker Arm Pivot Lock Nut	10 Nm
6	Rocker arm pivot bolt/stud	24 Nm
7	Ignition Coil Bolts	8 - 10 Nm

6.5 Assembly Clearance

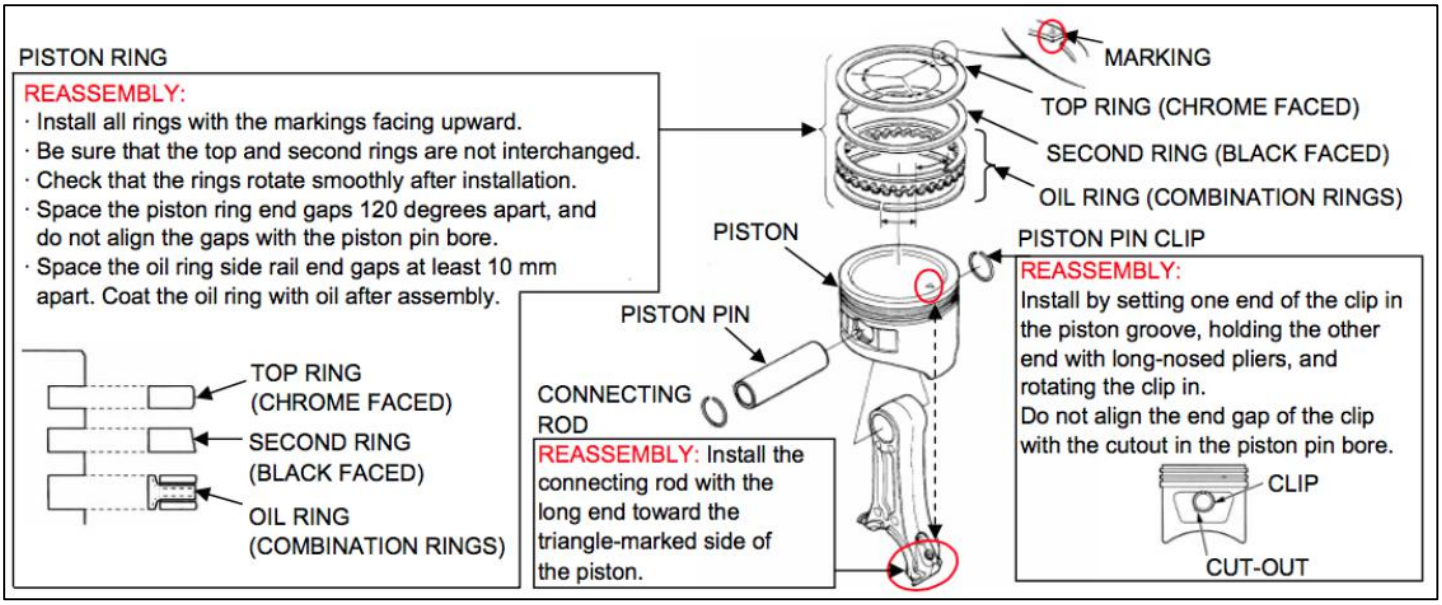
SL. No.	DESCRIPTION	CLEARANCE
1	Gap between Ignition Coil & Flywheel	0.4 mm
2	Valve Clearance	
2.1	Intake/ Inlet	0.10 – 0.12 mm
2.2	Exhaust	0.15 – 0.17 mm
3	Electrode gap of spark plug	0.7 – 0.8 mm

6.6 Maintenance Chart						
			Free Service Period (from date of delivery)		Frequency	
Item		Each Use	1st Month / 20 hrs.	Each Month / 50 hrs.	Every Month / 100 hrs.	Every year/ 300 hrs.
Clean Crank Case	CLEAN		C	C	C	C
Engine Oil	INSPECT LEVEL	I				
	CHANGE		R	I/R	R	
Valve Clearance (adjust if necessary)	CHECK-ADJUST		I/A	I/A	I/A	I/A
Air cleaner	INSPECT	I				
	CLEAN		C	C	C	
	REPLACE					R
Sediment Cup	CLEAN				C	
Spark Plug	INSPECT - CLEAN				I/C	
	REPLACE					R
Spark Arrester(Optional)	CLEAN				C	
Idle Speed	INSPECT - ADJUST					I/A
Fuel Tank and strainer	CLEAN			C		
Combustion Chamber	CLEAN					C
Fuel Line	INSPECT	Every 2 years (Replace if necessary)				
Cylinder Head Bolts	INSPECT		I/T	I/T	I/T	I/T
Main Gear Box Oil	INSPECT - REPLACE			R	I/F	
Decompression lever	INSPECT	I				
Blade fitting Nuts and Bolts	INSPECT	I/T				
Injector Pressure and timing	INSPECT			I	I	
Main Clutch free play	INSPECT - ADJUST	I/A	I/A	I/A	I/A	
C - Clean I - Inspect R – Replace T – Torque A – Adjust F – Fill/Top-up						

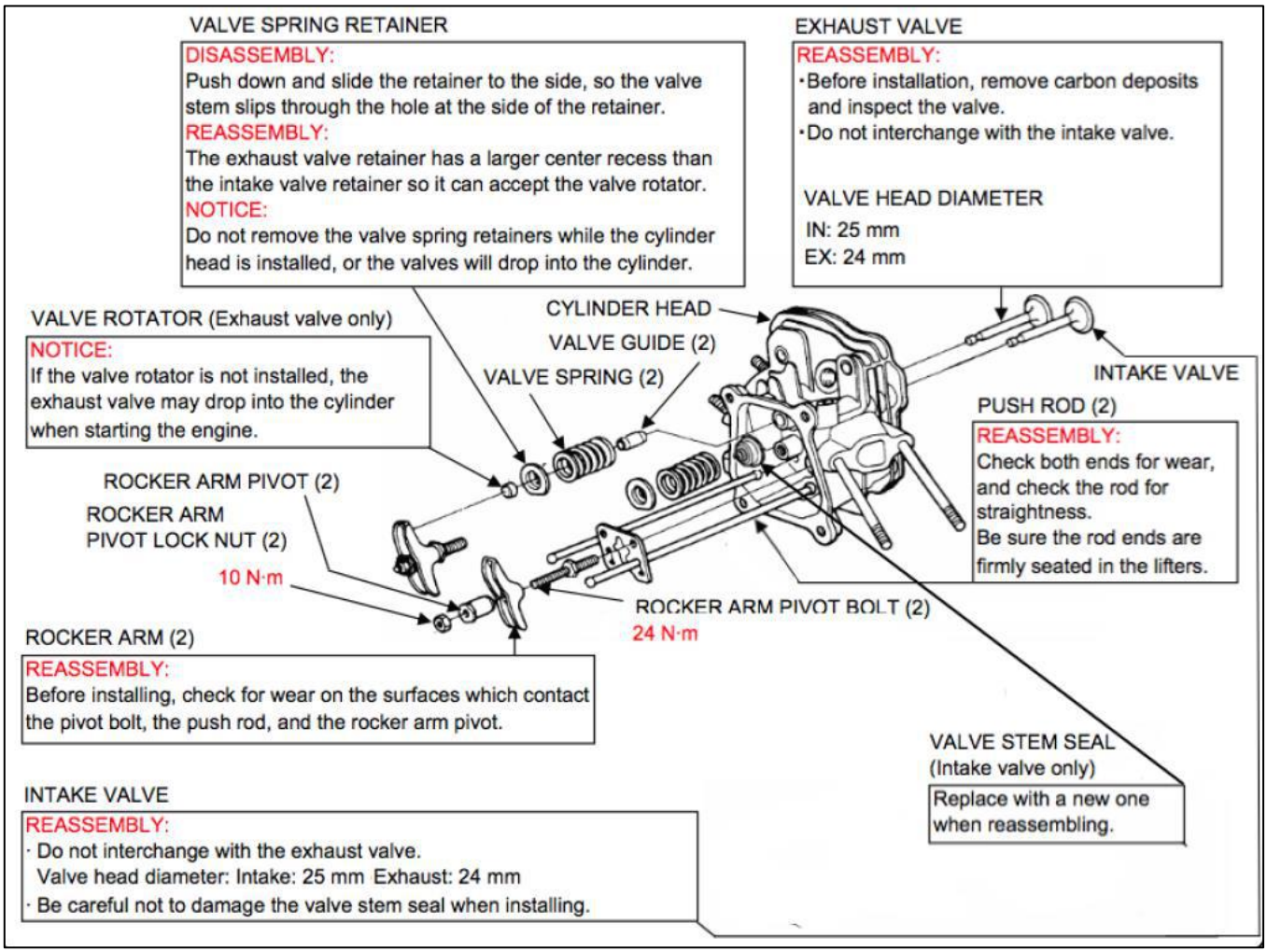
* Service more frequently when used in dusty areas

6.7 Assembly of Engine

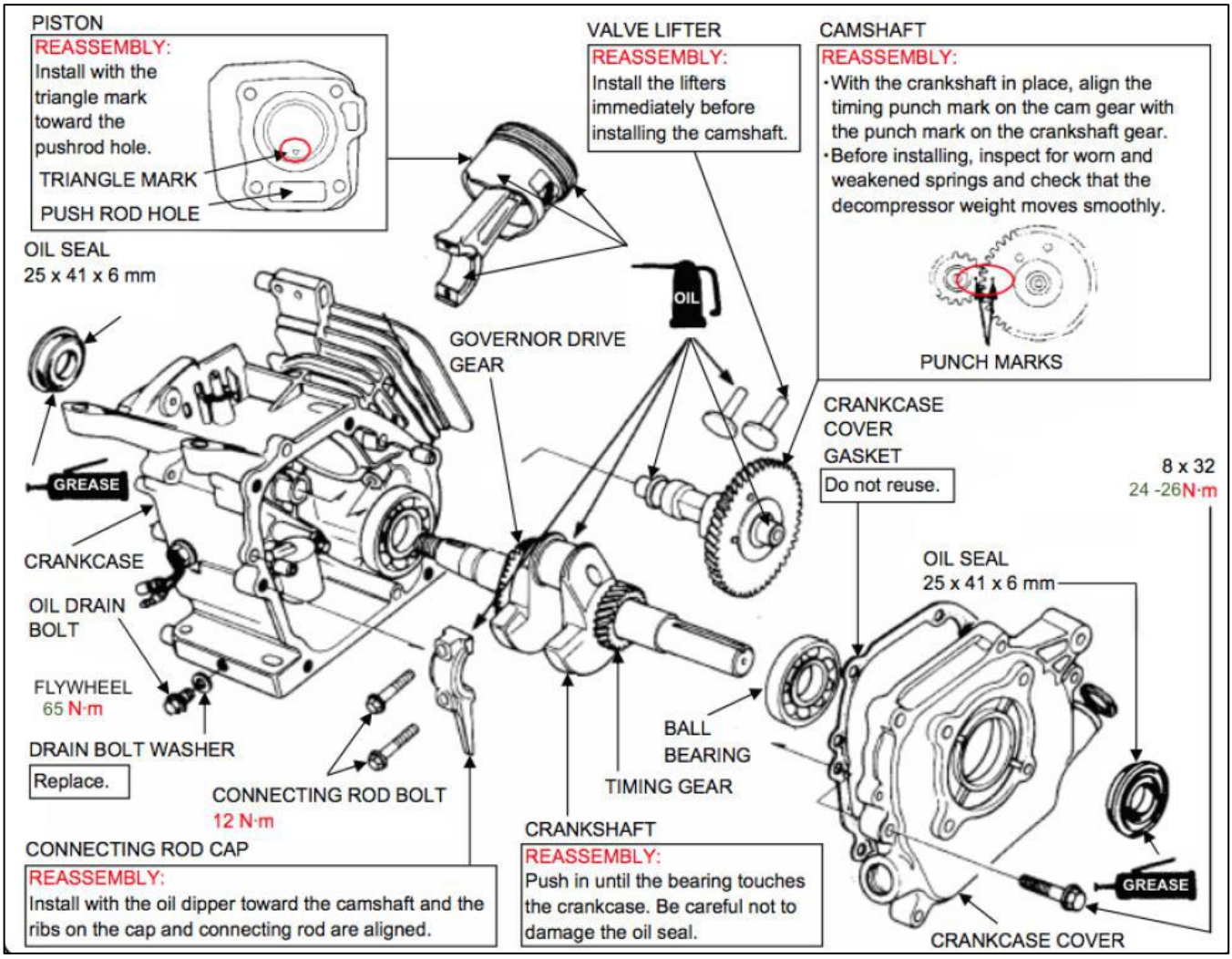
6.7.1 Assembly of Piston and Connecting Rod



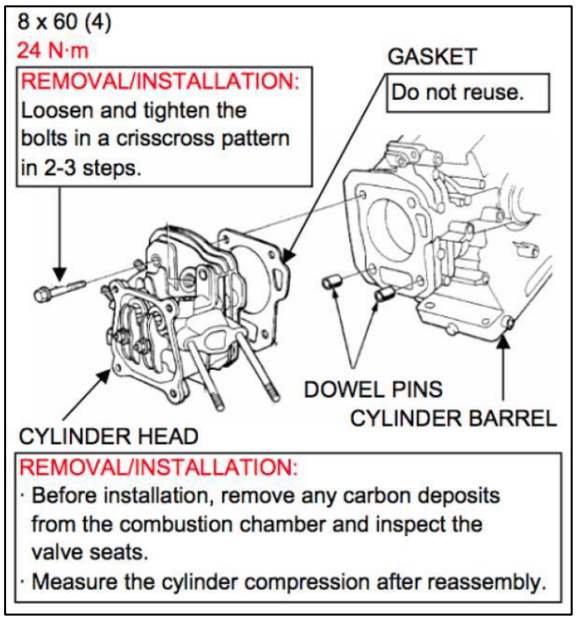
6.7.2 Assembly of Crankcase



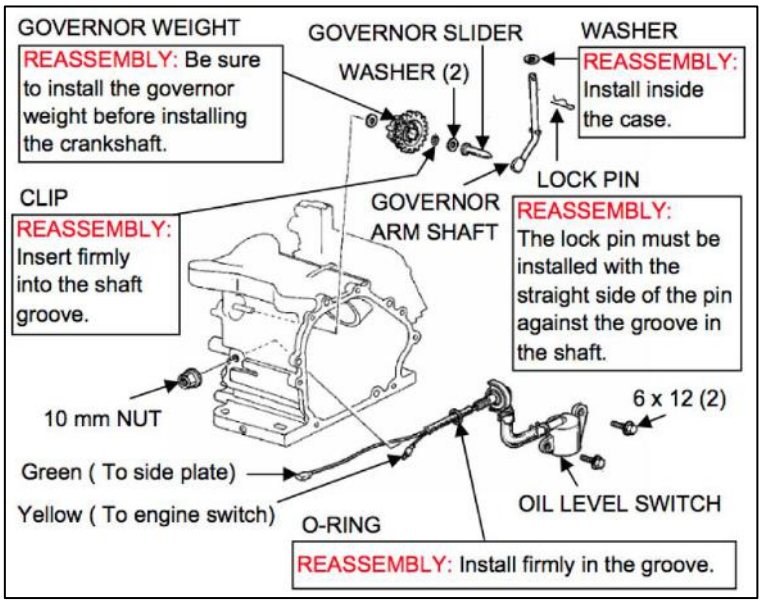
6.7.3 Assembly of Cylinder Head and Valve Assembly



6.7.4 Assembly of Cylinder Head



6.7.5 Assembly of Governor

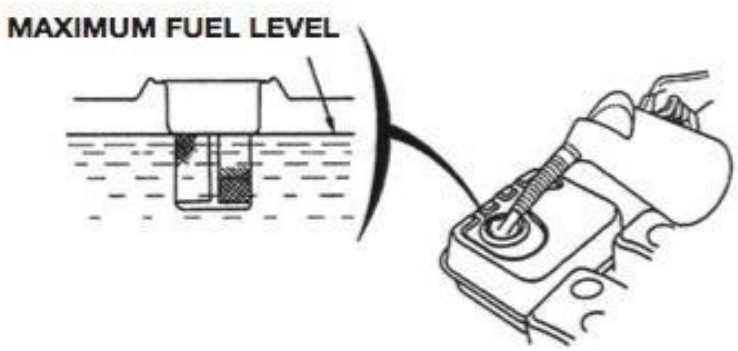


6.8 Refueling

> **⚠ WARNING**
>
> Gasoline is highly flammable and explosive. You can be burned or seriosly injured when handling fuel.
> - Stop the engine and keep heat, sparks, and flame away.
> - Handle fuel only outdoors.
> - Wipe up spills immediately.

CCP196 fuel tank capacity: 3.5 Liters
With the engine stopped, remove the fuel tank cap and check the fuel level. Refill the tank if the fuel level is low.

Refuel in a well-ventilated area before starting the engine. If the engine has been running, allow it cool. Refuel carefully to avoid spilling fuel. Do not fill above the fuel strainer shoulder. After refueling, tighten the fuel tank cap securely.



Never refuel the engine inside a building where gasoline fumes may reach flames or sparks. Keep gasoline away from appliance pilot lights, barbecues, electric appliances, power tools, etc.
.
Spilled fuel is a fire hazard. Wipe up spills immediately.

NOTICE

Fuel can damage paint and plastic. Be careful not to spill fuel when filling your fuel tank. Damage caused by spilled fuel is not covered under warranty.

6.9 Fuel Recommendations

USE UNLEADED GASOLINE WITH A PUMP OCTANE RATING OF 86 OR HIGHER.

These engines are certified to operate on unleaded gasoline. Use of unleaded gasoline leads to fewer engine and spark plug deposits and extends the exhaust system life.
Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.
Occasionally you may hear a light "spark knock" or "pinging" (metallic rapping noise) while operating under heavy loads. This is no cause for concern.
If spark knock or pinging occurs at a steady engine speed, under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized servicing dealer.

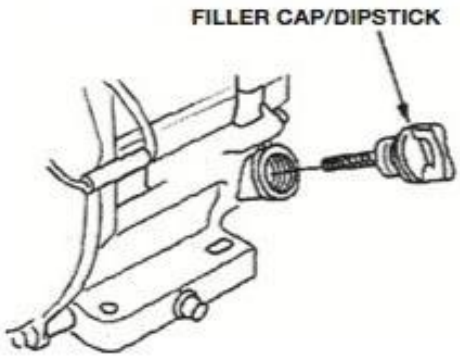
NOTICE

Running the engine with persistent spark knock or pinging can cause engine damage.

Running the engine with persistent spark knock or pinging is considered misuse, and the Distributor's Limited Warranty does not cover parts damaged by misuse.

6.10 Engine Oil Level Check

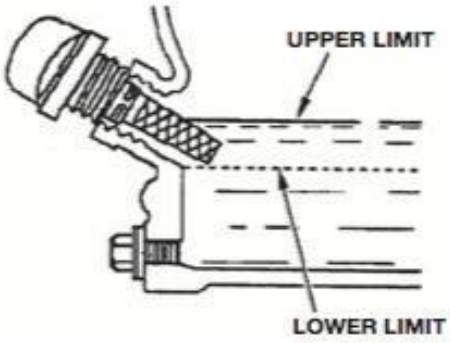
Check the engine oil level with the engine stopped and in a level position.



1. Remove the filler cap/dipstick and wipe it clean.

2. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.

3. If the oil level is low, fill to the edge of the oil filler hole with the recommended oil.



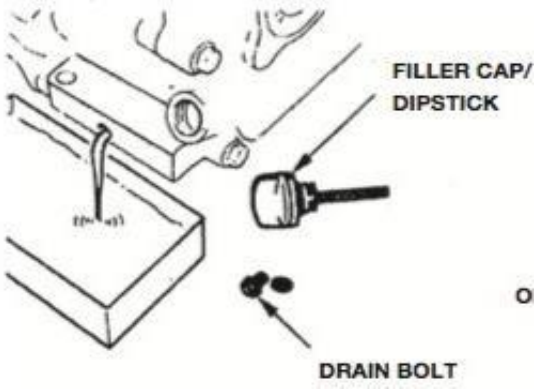
4. Screw in the filler cap/dipstick securely.

The Low Oil Alert System will automatically stop the engine before the oil level falls below the safe limit. However, in order to avoid the inconvenience of an unexpected shutdown, always check the engine oil level before startup.

NOTICE ***Running the engine with a low oil level can cause engine damage.***

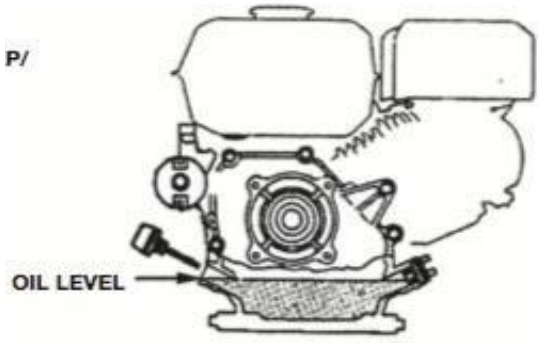
6.11 Engine Oil Change

Drain the used oil while the engine is warm. Warm oil drains quickly and completely.



1. Place a suitable container below the engine to catch the used oil, and then remove the filler cap/dipstick and the drain plug.
2. Allow the used oil drain completely, and then reinstall the drain plug, and tighten it securely. Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take your used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash; pour it on the ground; or down a drain.
3. With the engine in a level position, fill to the outer edge of the oil filler hole with the recommended oil.

CCP196 Engine oil capacity: 0.6 Liters

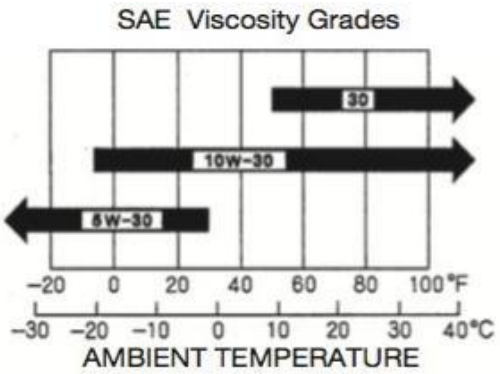


Running the engine with a low oil level can cause engine damage. The Low Oil Alert System will automatically stop the engine before the oil level falls below the safe limit. However, in order to avoid the inconvenience of an unexpected shutdown, fill oil to the upper limit, and check the oil level regularly.

4. Screw in the filler cap/dipstick securely.

6.12 Servicing Your Engine

Engine Oil Recommendations

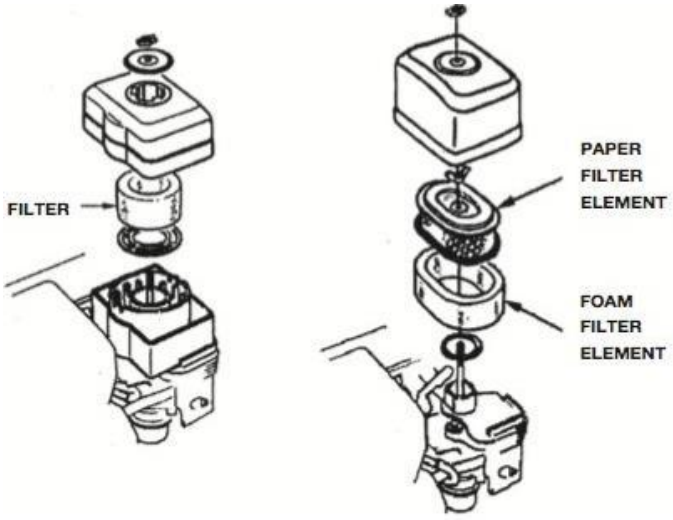


Oil is a major factor affecting performance and service life. Use 4- stroke automotive detergent oil. SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.

The SAE oil viscosity and service classification are in the API label on the oil container. We recommended that you use API SERVICE Category SE or SF oil.

6.13 Air Filter Inspection

Remove the air cleaner cover and inspect the filter. Clean or replace dirty filter elements. Always replace damaged filter elements. If equipped with an oil-bath air cleaner, also check the oil level.



6.14 Air Filter Service

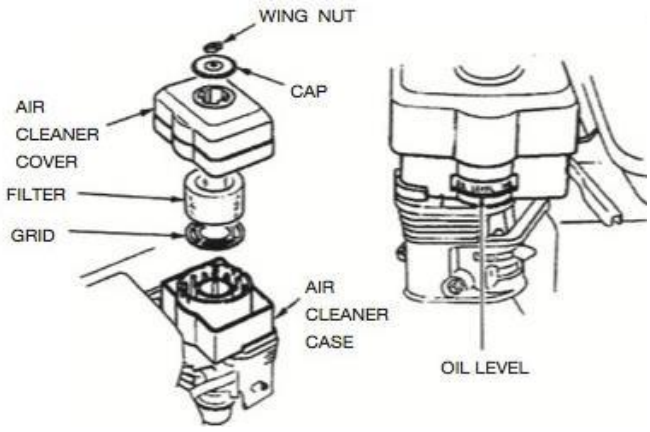
A dirty air filter restricts air-flow to the carburetor, thereby reducing engine performance.

If you operate the engine in very dusty areas, clean the air filter more often than specified in the MAINTENANCE SCHEDULE.

NOTICE

Operating the engine without an air filter, or with a damaged air filter, will allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by the Distributor's Limited Warranty.

6.14.1 Oil-Bath Type Air Filter



1. Remove the wing nut, and remove the air filter cap and cover.
2. Remove the air filter from the cover, wash the cover and filter in warm, soapy water, rinse, and allow drying thoroughly. Or clean in nonflammable solvent and allow drying.
3. Dip the filter in clean engine oil, and then squeeze out all excess oil. The engine will smoke if too much oil is left in the foam.
4. Empty the used oil from the air cleaner case, wash out any accumulated dirt with nonflammable solvent, and dry the case.

5. Fill the air cleaner case to the OIL LEVEL mark with the same oil that is recommended for the engine.
Oil- Bath type Air Filter Oil capacity: 60 ml
6. Reassemble the air cleaner, and tighten the wing nut securely.

⚠ WARNING

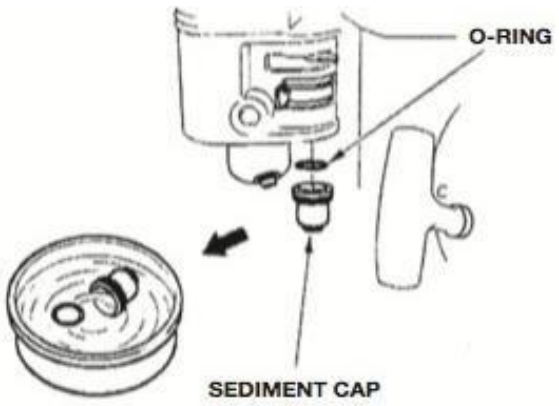
Gasoline is highly flammable and explosive.

You can be burned or seriously injured when hanling fuel.

- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

6.15 Sediment Cup Cleaning

1. Move the fuel valve to the OFF position, and remove the fuel sediment cup and O-ring
2. Wash the sediment cup and O-ring in nonflammable solvent, and dry them thoroughly.
3. Place the O-ring in the fuel valve, and install the sediment cup. Tighten the sediment cup securely.
4. Move the fuel valve to the ON position, and check for leaks. Replace the O-ring if there is any leakage.



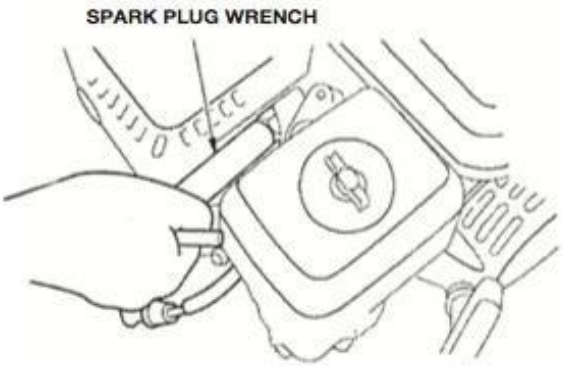
6.16 Spark Plug Service

1. Disconnect the spark plug cap, and remove any dirt from around the spark plug area.

NOTICE

An incorrect spark plug can cause engine damage.

2. Remove the spark plug with a spark plug wrench.
3. Inspect the spark plug. Replace it if the electrodes are worn, or if the insulator is cracked or chipped.

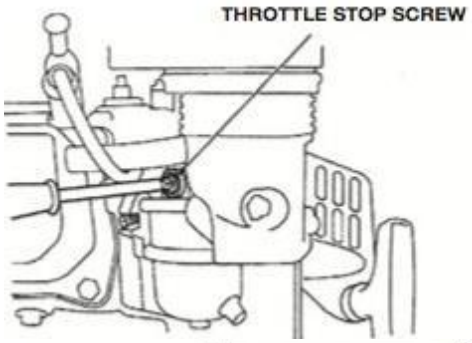


4. Measure the spark plug electrode gap with a suitable gauge. The gap should be 0.70 - 0.80 mm. Correct the gap, if necessary, by carefully bending the side electrode.
5. Install the spark plug carefully, by hand, to avoid cross-threading.
6. After the spark plug seats, tighten with a spark plug wrench to compress the water. If reinstalling the used spark plug, tighten 1/8 - 1/4 turn after the spark plug seats. If installing a new spark plug, tighten 1/2 turn after the spark plug seats.
7. Attach the spark plug cap.

NOTICE

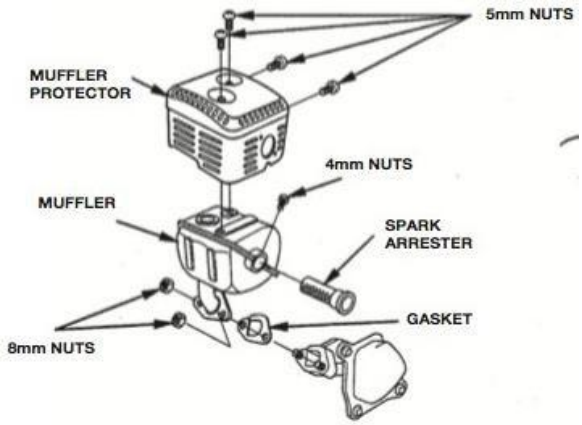
A loose spark plug can overheat and damage the engine.
Over tightening the spark plug can damage the threads in the cylinder head.

6.17 Idle Speed Adjustment

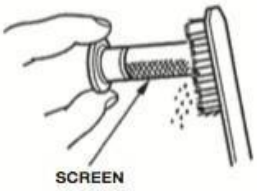


1. Start the engine outdoors, and allow it to warm up to operating temperature.
2. Move the throttle lever to its slowest position.
3. Turn the throttle stop screw to obtain the standard idle speed.

6.18 Spark Arrester Service



Your CCP196 engine is factory-equipped with spark arrester. The spark arrester must be serviced every 100 hours to keep it functioning as designed.
If the engine has been running, the muffler will be very hot. Allow the muffler to cool before servicing the spark arrester.
1. Remove the three 4mm screws from the exhaust deflector, and remove the deflector.
2. Remove the four 5 mm screws from the muffler protector and remove the muffler protector.
3. Remove the 4 mm screw from the spark arrester, and remove the spark arrester from the muffler.
4. Use a brush to remove carbon deposits from the spark arrester screen. Be careful to avoid damaging the screen. The spark arrester must be free of breaks and holes. Replace the spark arrester if it is damaged

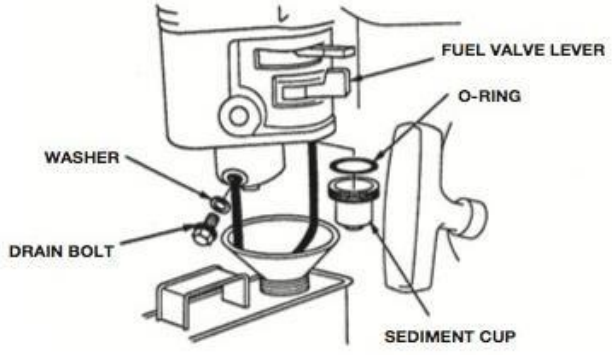


5. Install the spark arrester, muffler protector, and exhaust deflector in the reverse order of disassembly.

6.19 Fuel

Gasoline will oxidize and deteriorate in storage. Old gasoline will cause hard starting, and it leaves gum deposits that clog the fuel system. If the gasoline in your engine deteriorates during storage, you may need to have the carburetor and other fuel system components serviced or replaced. The length of time that gasoline can be left in your fuel tank and carburetor without causing functional problems will vary with such factors as gasoline blend, your storage temperatures, and whether the fuel tank is partially or completely filled. The air in a partially filled fuel tank promotes fuel deterioration. Very warm storage/temperatures accelerate fuel deterioration. Fuel deterioration problems may occur within a few months, or even less if the gasoline was not fresh when you filled the fuel tank. The Distributor's Limited Warranty does not cover fuel system damage or engine performance problems resulting from neglected storage preparation. You can extend fuel storage life by adding a fuel stabilizer that is formulated for that purpose, or you can avoid fuel deterioration problems by draining the fuel tank and carburetor.

6.20 Draining the Fuel Tank and Carburetor



Place an approved gasoline container below the carburetor, and use a funnel to avoid spilling fuel.
Remove the carburetor drain bolt and sediment cup, and then move the fuel valve lever to the ON position.
After all the fuel has been drained into the container reinstall the drain bolt and sediment cup. Tighten them securely.

6.21 Engine Oil Storage Precautions

1. Change the engine oil.
2. Remove the spark plugs
3. Pour a tablespoon (5-10 cc) of clean engine oil into the cylinder.
4. Pull the starter rope several times to distribute the oil in the cylinder.
5. Reinstall the spark plugs.
6. Pull the starter rope slowly until resistance is felt. This will close the valves so moisture cannot enter the engine cylinder. Return the starter rope gently.

If your engine will be stored with gasoline in the fuel tank and carburetor, it is important to reduce the hazard of gasoline vapor ignition.

Select a well-ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater, or clothes dryer.

Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because it promotes rust and corrosion.

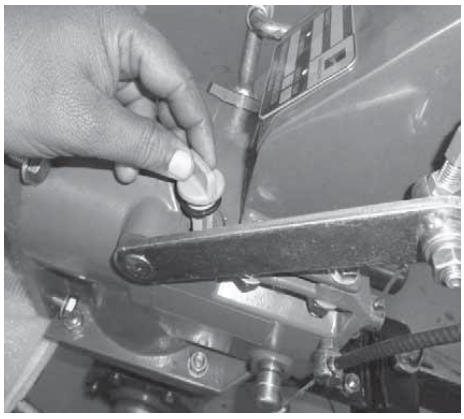
Unless all fuel has been drained from the fuel tank, leave the fuel valve lever in the OFF position to reduce the possibility of the fuel leakage.

Position the equipment so the engine is level. Tilting can cause fuel or oil leakage.

With the engine and exhaust system cool, cover the engine to keep out dust. A hot engine and exhaust system can ignite or melt some materials.

Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the engine, promoting rust and corrosion.

6.22 Transmission Oil Change Procedure



- MINT 5P on flat surface & keep oil container tray at bottom of gear box to collect old oil
- Drain out transmission oil by removing transmission drain plug and oil filler cap
- After completion oil drain out, reinstall the drain plug securely & fill recommended transmission oil into the gear box. Use funnel to avoid oil spilling
- Use of filler gun or oil applicator to avoid oil spilling
- After completion of process, reinstall oil filler cap
- To check transmission oil level, remove oil level filler cap provided at top side of gear box assembly

6.23 Lubrication Specification Chart

USE ONLY KOEL RECOMMENDED OIL & LUBICANTS				
Model	**Lubricants Type**	**Specifications**	**Quantity**	**Replacement**
MIN T 5	Engine Oil	KOEL CARE – PETRO PLUS	0.6 LTRS.	Every Service
	Transmission Oil	SAE 80W - 90, GI-4	1.3 LTRS.	200 Hrs or 5 months
	Air Cleaner	SAE 20W - 90, GI-4	60 ML	Every Service

6.24 Free Service Schedule

Free Service recommended with following schedule (Month or Hours of usage whichever is earlier)				
Sr. No.	**Free Service**	**Days**	**Total Hours Used**	Date of Sale
1	1st Free Service	30	20	
2	2nd Free Service	75	100	
3	3rd Free Service	150	200	

7 Troubleshooting

7.1 ENGINE TROUBLESHOOTING

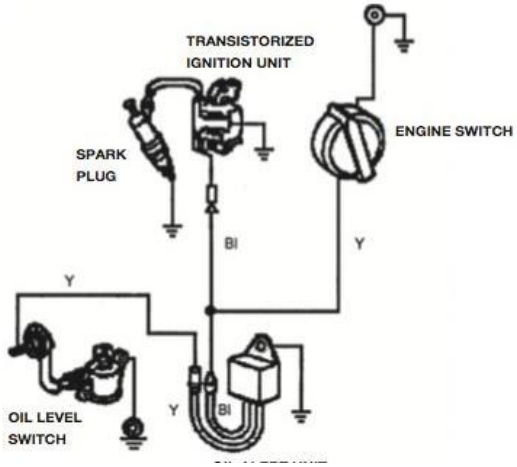
Engine Not Starting		
Sr. No.	**Cause**	**Action Taken**
1	Fuel valve OFF	Move lever to ON
2	Choke OPEN	Move lever to CLOSE unless engine is warm
3	Engine switch OFF	Turn engine switch to ON
4	Engine out of fuel	Refuel
5	Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline	Drain fuel tank and carburetor. Refuel with fresh gasoline
6	Spark plugs faulty, fouled, or improperly gapped	Gap, or replace spark plugs
7	Spark plugs wet with fuel (flooded engine)	Dry and reinstall spark plugs. Start engine with throttle lever in FAST position
8	Fuel filter clogged, carburetor malfunction, ignition malfunction, valve struck. Etc.	Replace or repair faulty components as necessary.
9	Fuel quantity less	Keep sufficient fuel in tank.
10	Unsteady Fuel Flow	Check fuel tank, and fuel lines for any bend or any blockage. clean or replace if required.
11	Valve Clearance Incorrect	Adjust Valve Clearance as recommended.
12	Low Compression Pressure	Check Engine compression as recommended. If found less remove Cylinder head and check valve seat leakage, rework it. If found ok then check Piston Rings butt gap and Piston to Liner Clearance. Any of those found more, and then replace it.

Engine Stalls (Stops Running)		
Sr. No.	**Cause**	**Action Taken**
1	Low Oil Level	Check the quantity of oil, replenish if insufficient.
Black Smoke from Engine		
	Cause	**Action Taken**
1	Adulterated Fuel in tank	Drain fuel from tank, filter and fuel pipes, Flush fuel system and refill with petrol.
2	Engine Overloaded	Reduce load appropriately and adjust speed. Check the belt tension. Adjust as recommended. Check the implement Depth and adjust the depth as recommended.
3	Air Filter Choked	Clean the wire mesh & foam with petrol or kerosene. Replace the foam if required.
4	Low Compression Pressure	Check Engine compression as recommended. If found less removed Cylinder head and check valve seat leakage, rework it. If found ok then check Piston Rings butt gap and Piston to Liner clearance. Any of those found more gaps then replace it.
Engine Starts But Fires Intermittently & Stops		
Sr. No.	**Cause**	**Action Taken**
1	Air Filter Choked	Clean the wire mesh & foam with petrol or kerosene. Replace the foam if required.
2	Silencer Choked	Clean exhaust system, if required replace silencer.
3	Water In Fuel System	Drain fuel from tank, filter and fuel pipes. Flush fuel system and refill with petrol.
4	Fuel Filter Choked	Change Fuel filter
Engine Lacks Power		
1	Filter element(s) clogged	Clean or replace filter element(s)
2	Out of fuel	Refuel
3	Bad fuel; engine stored without treating or draining gasoline, or refueled with bad gasoline	Drain fuel tank and carburetor. Refuel with fresh gasoline.
4	Fuel filter clogged, carburetor malfunction, ignition malfunction, valve stuck, etc.	Replace or repair faulty components as necessary.
7.2 CLUTCH TROUBLESHOOTING		
Clutch Failure		
Sr. No.	**Cause**	**Action Taken**
1	Friction discs failure	Replace with new discs
2	Tension spring loose	Screw in the adjusting nut of tension screw rod
3	Bearing in the clutch is damaged	Replace with new bearing
Clutch Slipping		
Sr. No.	**Cause**	**Action Taken**
1	Spring fatigue and failure	Replace with new spring
2	Cable wire adjusting screw rod loose	Tighten the cable wire adjusting screw rod and lock it

7.3 GEAR BOX TROUBLESHOOTING		
Reverse Gear not in position		
Sr. No.	**Cause**	**Action Taken**
1	Reverse Cable wire failure	Readjust or change the cable wire
2	Reverse gear shaft loose	Tighten the bolt at end of reverse gear shaft
3	Reverse gear fork jammed	Clear the gap of reverse gear fork axle and the steel sleeve
4	Sleeve is over worn	Change the sleeve
5	Reverse gear shaft loose and causes gear to get stuck	Tighten bolt at end of reverse gear shaft
Reverse gear does not go back to position		
Sr. No.	**Cause**	**Action Taken**
1	Reverse gear shaft spring failure	Replace the spring
2	Reverse gear shaft deformed	
Reverse gear shaft loose		
Sr. No.	**Cause**	**Action Taken**
1	Reverse gear shaft bolts loose	Tighten the bolt
2	Reverse gear shaft and gearbox case installation loose	Replace the same
Overheating		
Sr. No.	**Cause**	**Action Taken**
1	Lack of lube oil	Add gear box oil
2	Gears side gap narrow	Reinstall gear
3	The axial clearance is too small	Readjust
7.4 OTHER TROUBLE SHOOTING		
Rotary blades are broken		
Sr. No.	**Cause**	**Action Taken**
1	Collided with stones in the course of using	Replace the blades. Avoid colliding with hard things like stones in the soil when working.
The Operating cable is broken		
Sr. No.	**Cause**	**Action Taken**
1	Long-time abrasion in work	Replace the cables

8. Wiring Diagrams

Bl	BLACK
Y	YELLOW
G	GREEN



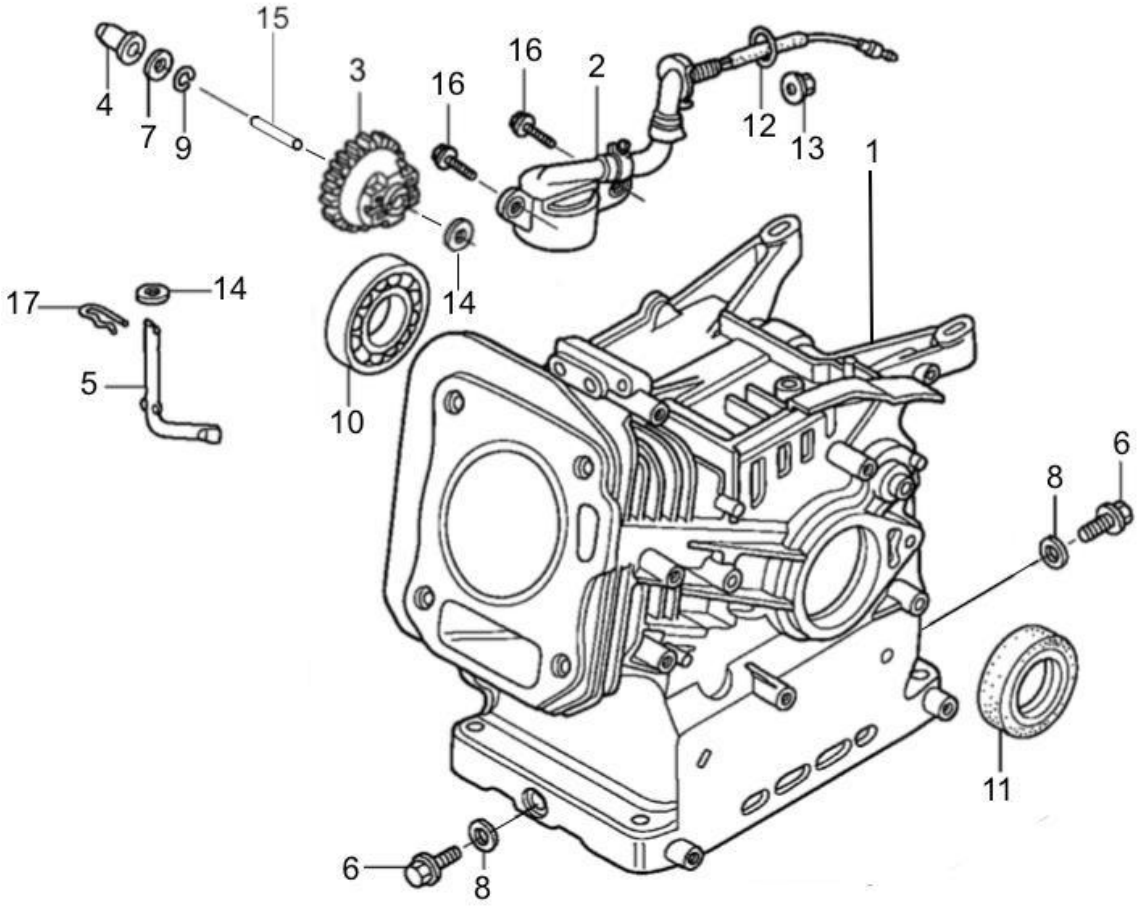
Low Oil Alert and Without Electric Starting

9. Parts Catalogue

9.1 Power Weeder CCP196 Petrol Engine Catalogue

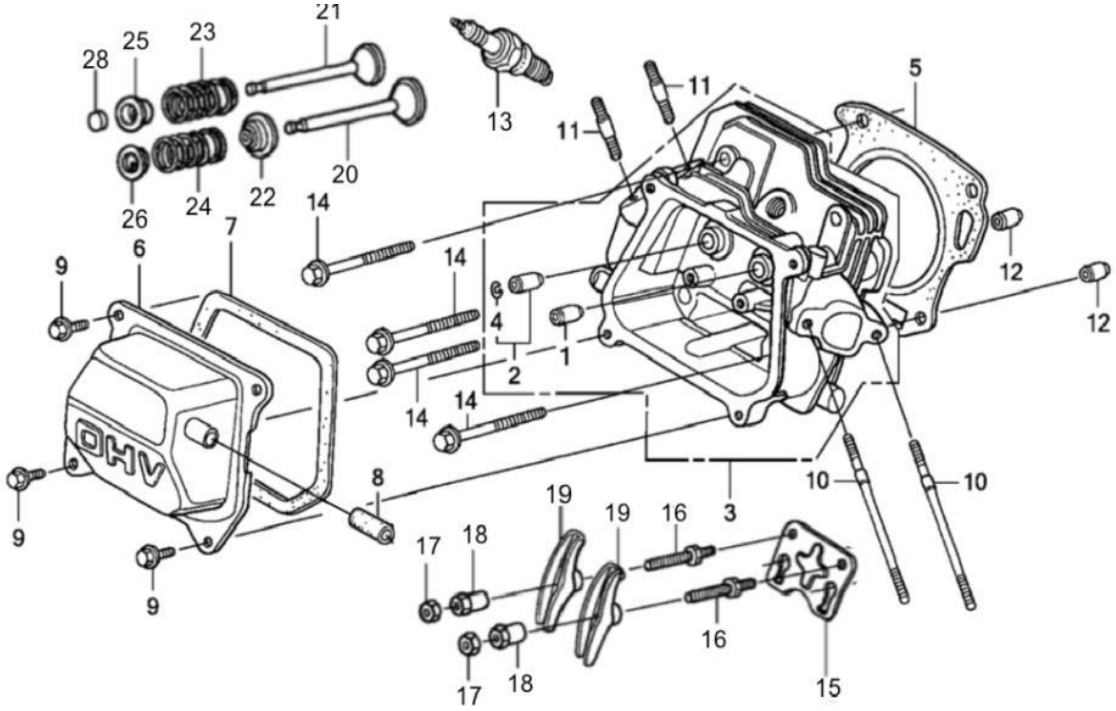
SL.NO	DESCRIPSION	GROUP CODE
1	CRANKCASE ASSEMBLY	AP5.001...
2	CRANKCASE COVER ASSEMBLY	AP5.002...
3	CYLINDER HEAD AND CYLINDER HEAD COVER ASSEMBLY	AP5.003...
4	FLYWHEEL ASSEMBLY	AP5.004...
5	CAMSHAFT ASSEMBLY	AP5.005...
6	CRANKSHAFT ASSEMBLY	AP5.006...
7	RECOIL STARTER ASSEMBLY	AP5.007...
8	AIR CLEANER ASSEMBLY	AP5.008...
9	IGNITION COIL ASSEMBLY	AP5.010...
10	PISTON AND CONNECTING ROD ASSEMBLY	AP5.013...
11	CARBURETOR ASSEMBLY	AP5.014...
12	REGULATING CONTROL SYSTEM	AP5.015...
13	MUFFLER ASSEMBLY	AP5.016...
14	FAN CASE AND AIR HOOD ASSEMBLY	AP5.017...
15	FUEL TANK ASSEMBLY	AP5.018...

CRANKCASE ASSEMBLY



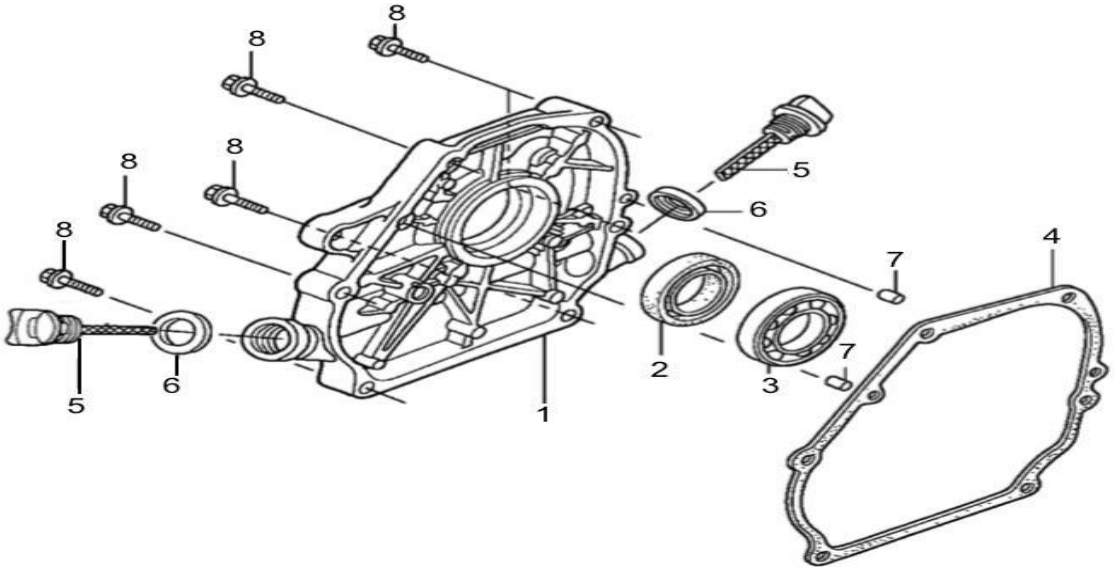
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.001.01.0.PR	CRANKCASE	1
2	AP1.001.20.0.PR	OIL LEVEL SWITCH ASSEMBLY	1
3	AP1.001.06.0.00	GOVERNOR GEAR	1
4	AP1.001.11.0.PR	SLIDING SLEEVE	1
5	AP1.001.12.0 PR	REGULATING SWAY BAR	1
6&8	AP1.001.19.0.00	DRAIN PLUG SCREW M10X15X1.25 WITH WASHER	2
7	AP1.001.09.0.PR	SLIDING SLEEVE WASHER	1
9	AP1.001.14.0.PR	CLIP	1
10	AP1.001.17.0.PR	BEARING 6205	1
11	AP1.001.18.0.PR	OIL SEAL 25X41.25X6	1
12	AP1.001.03.0.00	ORING	1
13	AP1.001.05.0.PR	NUT M10X1.5	1
14	AP1.001.13.0.PR	WASHER	1
15	AP1.001.07.0.PR	GOVERNOR SHAFT WITH SNAP RING	1
16	AP5.001.16.0.PR	FLANGE BOLT M6X1 20 mm Long	2

CYLINDER HEAD & COVER ASSEMBLY



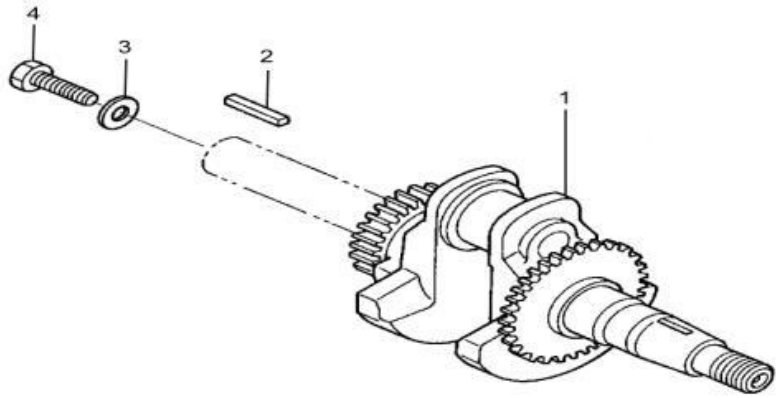
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.003.02.0.PR	VALVE GUIDE (EXHAUST)	1
2	AP5.003.03.0.PR	VALVE GUIDE (INLET)	1
3	AP5.003.01.0.PR	CYLINDER HEAD	1
4	AP5.003.04.0.PR	VALVE GUIDE LOCK	2
5	AP5.003.05.0.PR	CYLINDER HEAD GASKET	1
6	AP5.003.06.0.PR	CYLINDER HEAD COVER	1
7	AP5.003.07.0.PR	CYLINDER HEAD COVER GASKET	1
8	AP5.003.08.0.PR	BREATHER TUBE	1
9	AP5.003.09.0.PR	BOLT (M6X12)	4
10	AP5.003.11.0.PR	CARBURATOR STUD (M6x113)	2
11	AP5.003.12.0.PR	MUFFLER STUD (M8X35)	2
12	AP5.003.13.0.PR	LOCKING PIN (DIA 8 x14)	2
13	BP1.003.17.0.00	SPARK PLUG	1
14	AP5.003.14.0.PR	FLANGED BOLT (M8x60)	4
15	AP5.003.15.0.PR	PUSHER GUIDE	1
16	AP5.003.16.0.PR	FASTENING BOLT	2
17	AP5.003.17.0.PR	LOCK NUT	2
18	AP5.003.18.0.PR	PIVOT ADJUST NUT	2
19	AP5.003.19.0.PR	VALVE ROCKER	2
20	AP5.003.21.0.PR	INTAKE VALVE	1
21	AP5.003.22.0.PR	EXHAUST VALVE	1
22	AP5.003.23.0.PR	SPRING RETAINER (INTAKE VALVE)	1
23	AP5.003.24.0.PR	VALVE SPRING (EXHUAST)	1
24	AP5.003.25.0.PR	VALVE SPRING (INTAKE)	1
25	AP5.003.26.0.PR	SPRING SEAT (EXHAUST VALVE)	1
26	AP5.003.27.0.PR	SPRING SEAT (INTAKE VALVE)	1
28	AP5.003.28.0.PR	VALVE CAP (EXHAUST VALVE)	1

CRANKCASE COVER ASSEMBLY



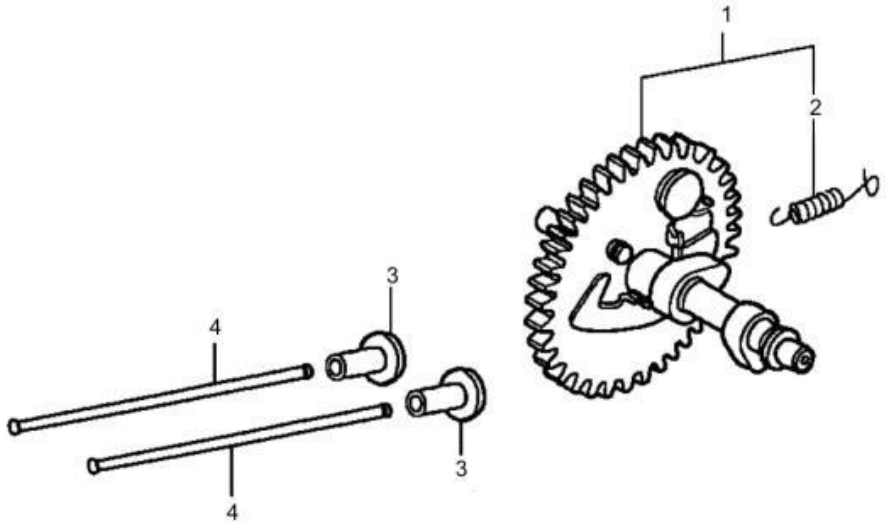
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP1.002.01.0.PR	CRANK CASE COVER	1
2	AP1.002.02.0.00	FRONT OIL SEAL 25X41.25X6	1
3	AP1.001.17.0.PR	BEARING 6205	1
4	AP1.002.04.0.PR	CRANCASE COVER GASKET	1
5&6	AP1.002.06.0.PR	DIPSTICK WITH SEAL	2
7	AP5.002.03.0.PR	DOWEL PIN 10 X 16	2
8	CC3.001.042.0.00	FLANGE BOLT M8X1.25X35 L 8.8	6

CRANKSHAFT ASSEMBLY (SPLINE TYPE)



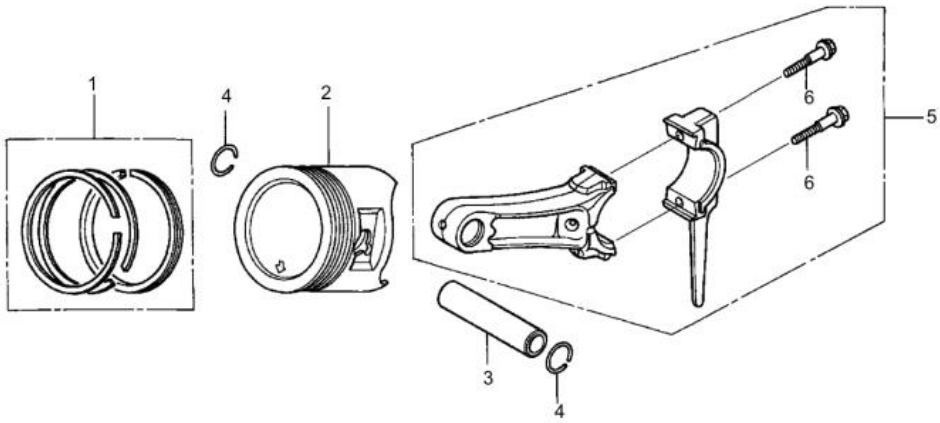
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.006.01.0.PR	CRANKSHAFT WITH GEAR	1
2	--	WOODRUFF KEY	2
3	AP5.006.02.0.PR	PLAIN WASHER M8	1

CAMSHAFT ASSEMBLY



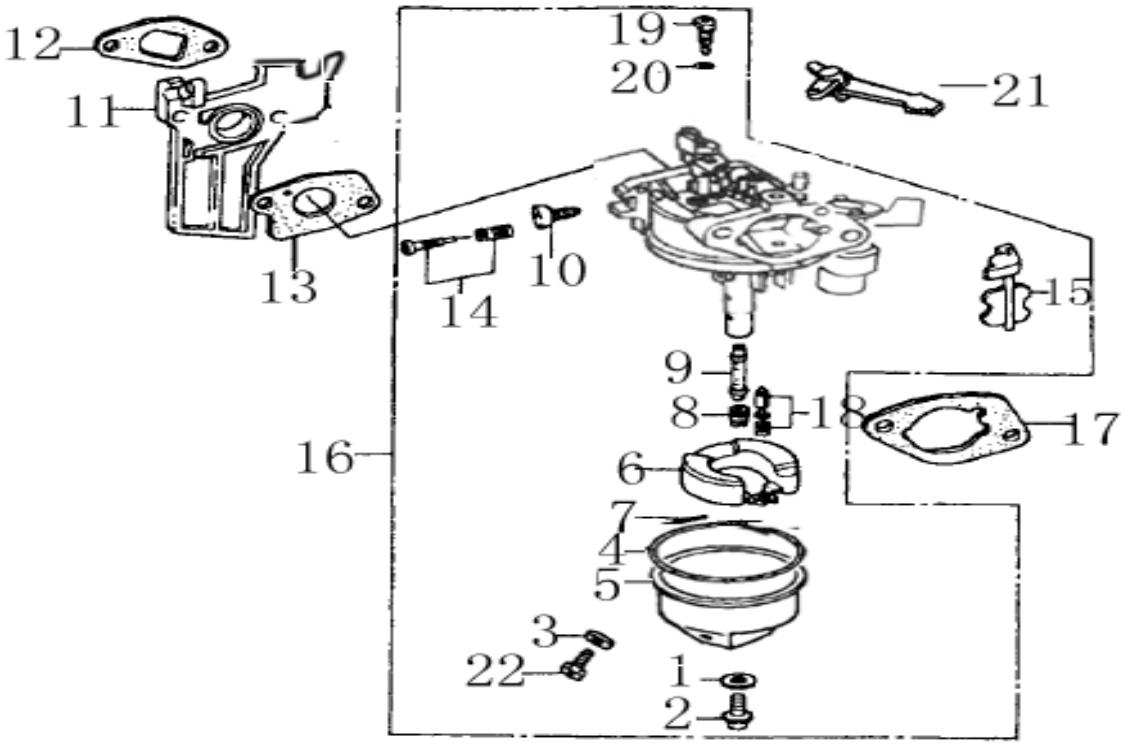
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP1.005.15.0.PR	CAMSHAFT	1
2	AP5.005.08.0.00	EXTENSION SPRING	1
3	AP1.005.07.0.00	VALVE LIFTER	2
4	AP5.005.06.0.00	PUSH ROD	2

PISTON & CONNECTING ROD ASSEMBLY



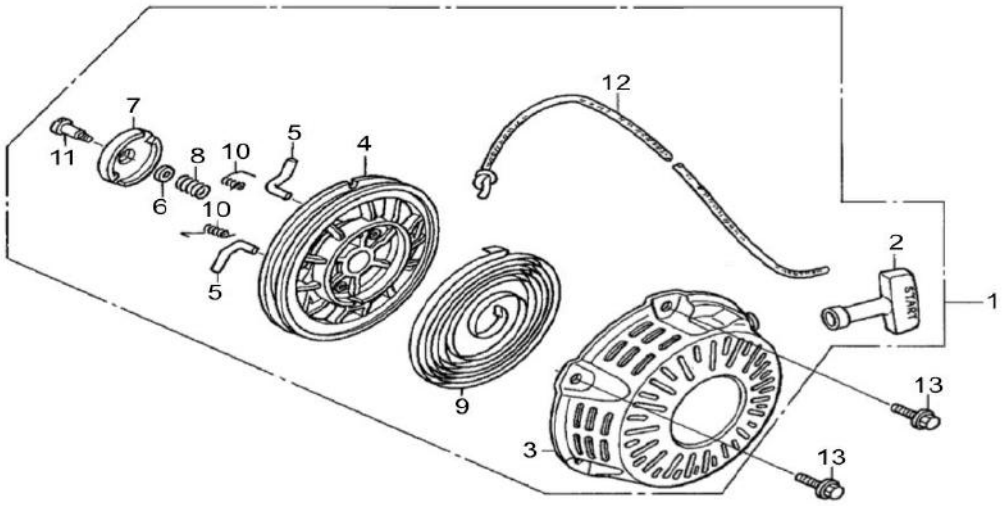
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.013.02.0.PR	PISTON RING SET	1
2	AP5.013.01.0.PR	PISTON	1
3	AP1.013.02.0.PR	PISTON PIN	1
4	AP1.013.03.0.PR	PISTON PIN CIRCLIP	2
5	AP1.013.40.0.00	CONNECTING RODASSEMBLY	1
6	AP1.013.08.0.PR	CONNECTING ROD BOLT	2

CARBURETOR ASSEMBLY



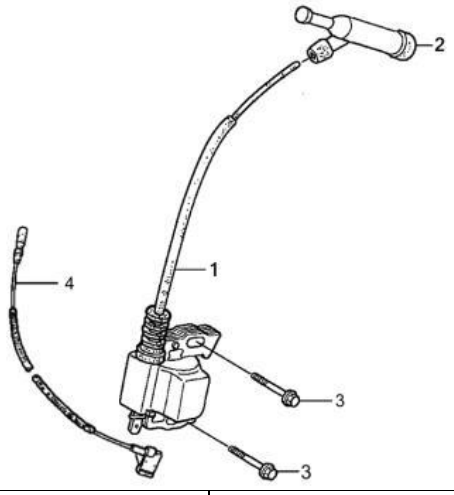
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.014.01.0.PR	O RING ID10 OD13 –1.5MM	1
2	AP5.014.02.0.PR	FLANGE BOLT FOR CHAMBER (M8x1.0x7)	1
3	AP5.014.03.0.PR	WASHER ID6 OD10—0.6MM	1
4	AP5.014.04.0.PR	RING FOR FLOAT CHAMBER 47x2	1
5	AP5.014.05.0.PR	FLOAT CHAMBER	1
6	AP5.014.06.0.PR	FLOAT	1
7	AP5.014.07.0.PR	PIN	1
8	AP5.014.08.0.PR	MAIN JET	1
9	AP5.014.09.0.PR	IMMERSION TUBE	1
10	AP5.014.11.0.PR	SCREW THROTTLE ADJUSTMENT	1
11	AP1.014.14.0.00	CARBURETTOR CONNECTING BLOCK	1
12	AP1.014.13.0.00	CARBURETTOR CONNECTING BLOCK GASKET	1
13	AP1.014.12.0.00	CARBURETTOR REAR GASKET	1
14	AP5.014.12.0.PR	SCREW FOR PILOT	1
15	AP5.014.13.0.PR	BUTTERFLY CHOKE	1
16	AP5.014.10.0.PR	CARBURETOR ASSEMBLY	1
17	AP1.014.15.0.PR	GASKET CARBURETOR METAL	1
18	AP5.014.15.0.PR	FLOAT PIN WITH SPRING ASSEMBLY	1
19	AP5.014.14.0.PR	AIR PLUG	1
20	AP5.014.16.0.PR	AIR PLUG O RING	2
21	AP5.014.17.0.PR	CHOKE SWTICH	1

RECOIL STARTER ASSEMBLY



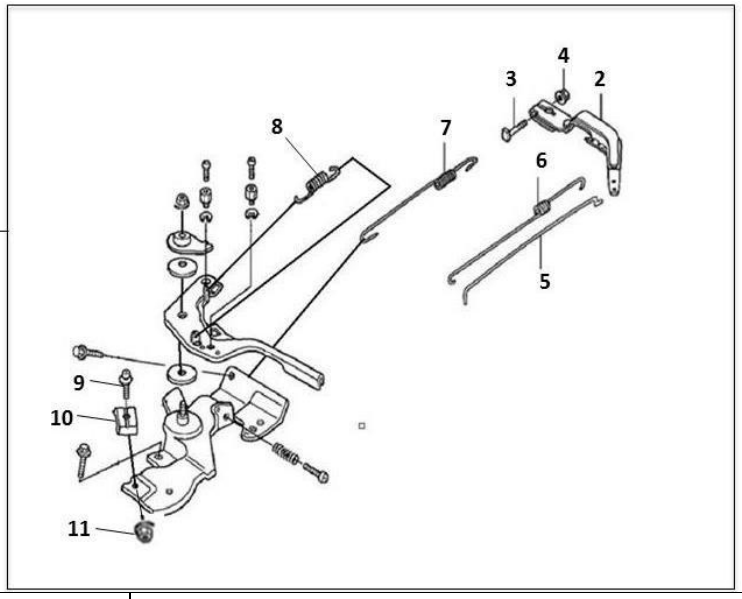
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.007.20.0.PR	RECOIL STARTER ASSEMBLY	1
2	AP1.007.08.0.PR	RECOIL STARTER KNOB	1
3	AP1.007.07.0.PR	RECOIL STARTER CASE	1
4	AP1.007.06.0.PR	STARTING ROLLER	1
5	AP1.007.04.0.PR	RATCHET	2
6	AP1.007.12.0.PR	WASHER	1
7	AP1.007.02.0.PR	SPRING COVER	1
8	AP1.007.03.0.PR	FRICTION SPRING FOR RECOIL STARTER	1
9	AP1.007.11.0.00	SPIRAL SPRING	1
10	AP1.007.05.0.PR	SPRING RETURN	2
11	N11.051.06.0.00	FLANGED SCREW - M6 X 1.0 X 12 MM	1
12	AP1.007.09.0.00	RECOIL STARTER ROPE	1
13	N11.051.09.0.00	FLANGED SCREW - M6 X 1.0 X 8 MM	3

IGNITION COIL ASSEMBLY



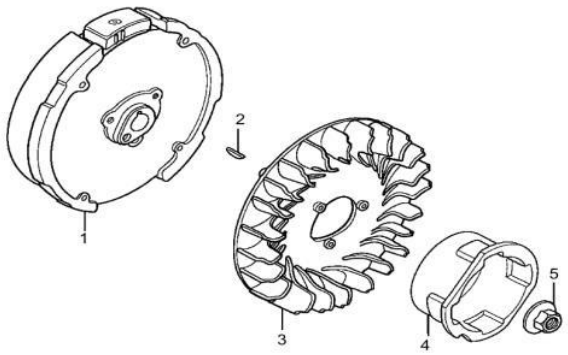
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP1.010.01.0.00	IGNITION COIL	1
2	BP1.027.02.0.PR	SPARK PLUG CAP	1
3	CC1.010.008.0.00	FLANGE BOLT M6X25	2
4	AP1.010.02.0.00	EXTINGUISHING CABLE	1

REGULATING CONTROL SYSTEM



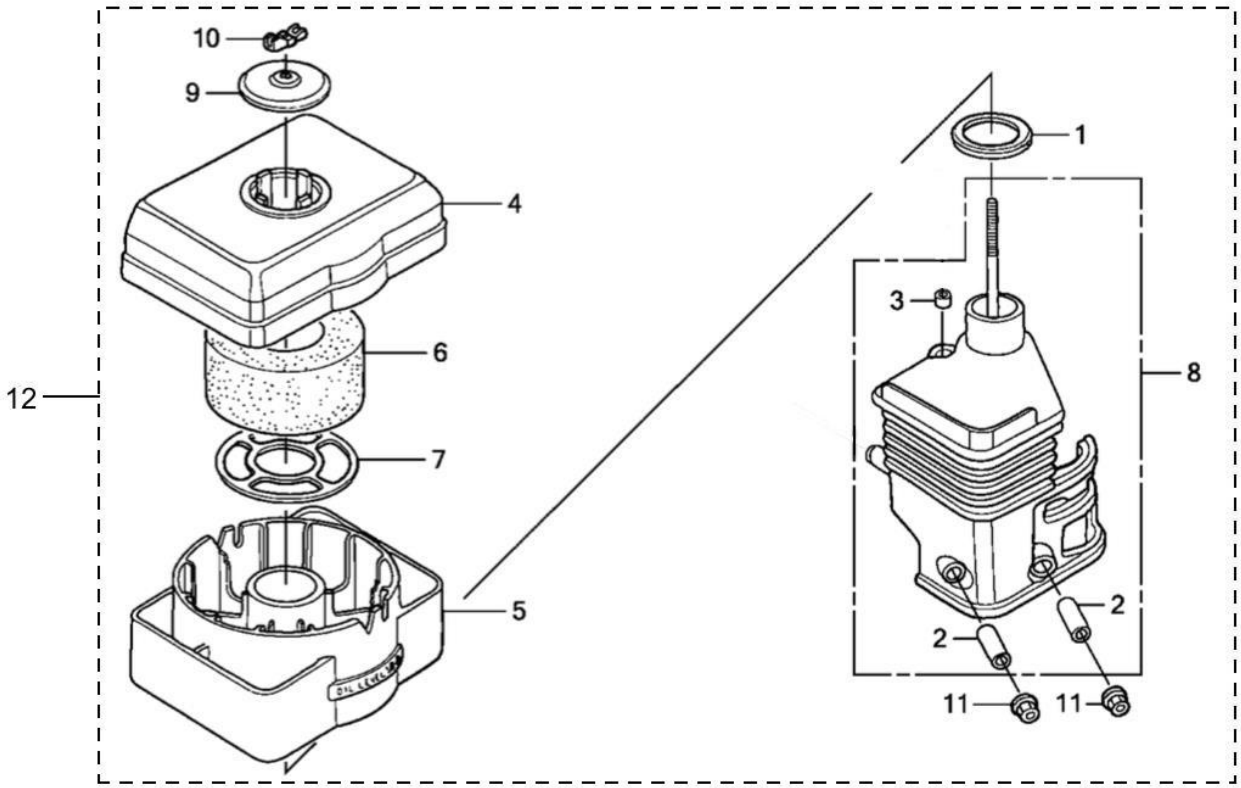
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.015.10.0.PR	CONTROL SYSTEM ASSEMBLY	1
2	--	REGULATING ARM	1
3	AP1.015.15.0.PR	FLANGED SCREW - M6 X 1.0 X 20 MM	1
4	AP1.015.03.0.PR	FLANGE NUT M6	1
5	AP1.015.06.0.PR	PULLING ROD	1
6	AP1.015.04.0.PR	FINE REGULATING SPRING	1
7	AP1.015.05.0.PR	BACK SPRING	1
8	AP5.015.09.0.PR	SPRING - REGULATING ARM CONNECTING	1
9	AP5.015.14.0.PR	FLANGED SCREW M5 X 15	1
10	AP5.015.13.0.PR	SUPPORT BRACKET FOR ACCELERATOR CABLE	1
11	AP5.015.16.0.PR	FLANGED NUT M5	1

FLYWHEEL



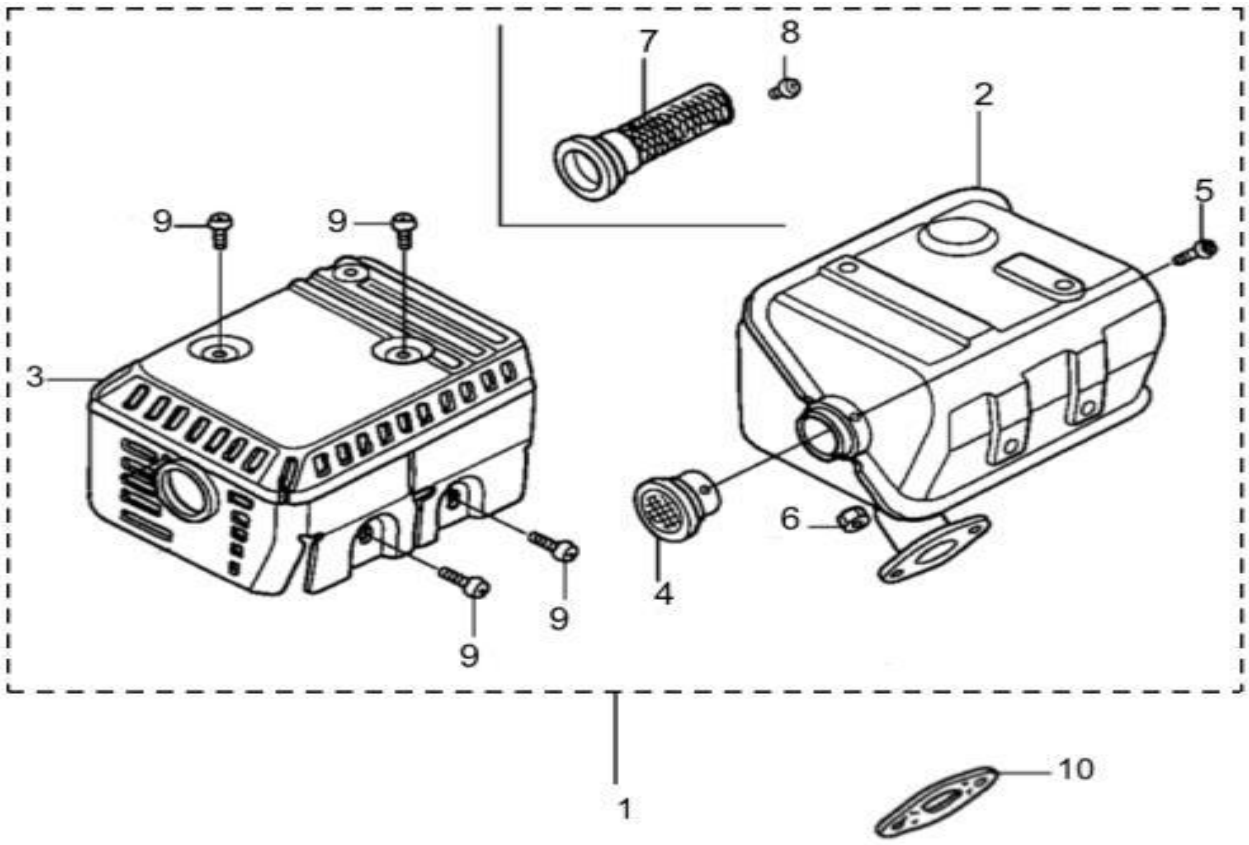
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.004.01.0.PR	FLYWHEEL	1
2	AP1.013.05.0.PR	FLYWHEEL KEY	1
3	AP1.004.02.0.00	FAN COOLING	1
4	AP1.004.03.0.00	STARTER PULLEY	1
5	AP1.004.04.0.00	FLY WHEEL NUT SPECIAL M14X2.0	1
6	AP1.004.05.0.PR	FLY WHEEL NUT WASHER M14 OD=36MM	1

AIR CLEANER ASSEMBLY



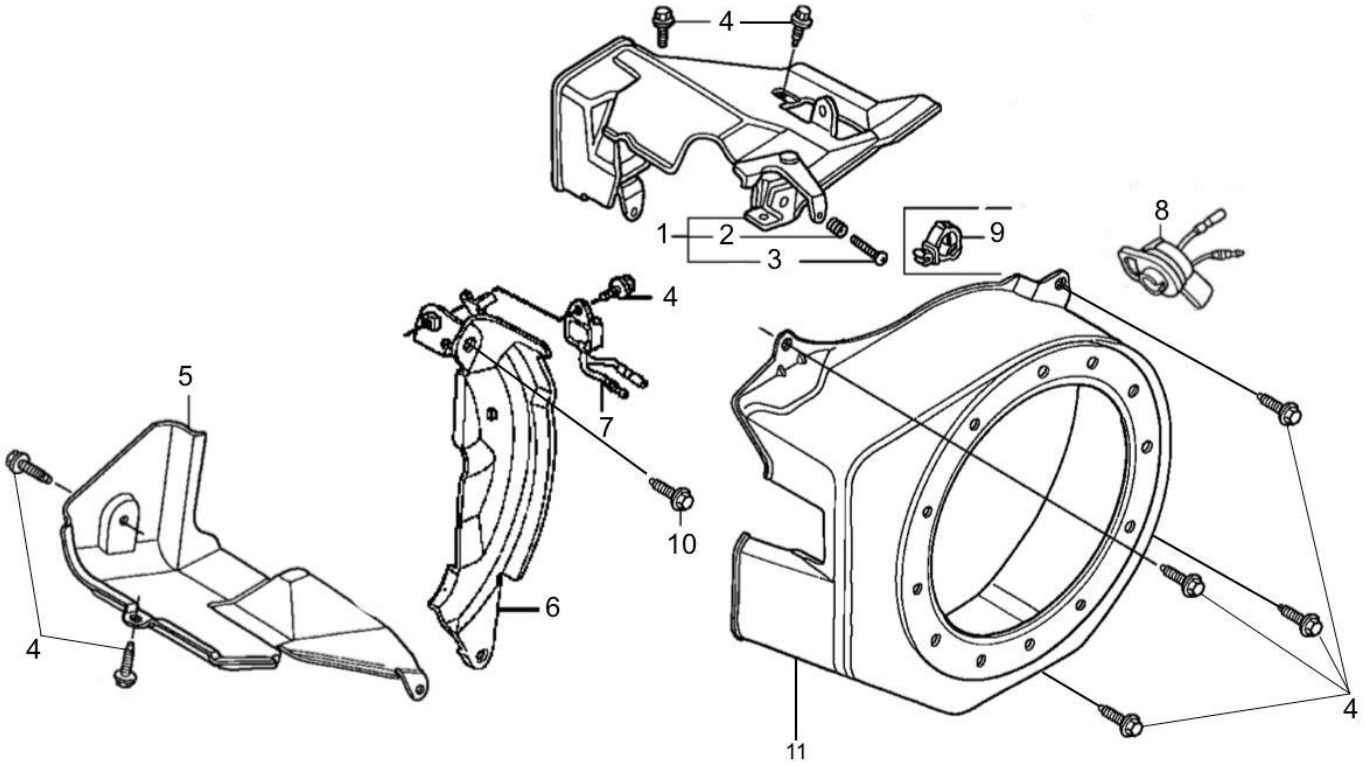
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.008.01.0.PR	O RING	1
2	AP5.008.02.0.PR	DOWEL	2
3	AP5.008.03.0.PR	DOWEL	1
4	AP5.008.04.0.PR	AIR CLEANER (TOP CASE)	1
5	AP5.008.05.0.PR	AIR CLEANER (LOWER CASE)	1
6	AP5.008.06.0.PR	AIR CLEANER ELEMENT	1
7	AP5.008.07.0.PR	ROUND CASE	1
8	AP5.008.08.0.PR	PLASTIC COVER	1
9	AP5.008.09.0.PR	ROUND WASHER FOR TOP CASE	1
10	AP5.008.11.0.PR	WING NUT	1
11	N11.051.02.0.00	FLANGED NUT M6 X 1.0	2
12	AP5.008.10.0.PR	AIR CLEANER ASSY	1

MUFFLER ASSEMBLY



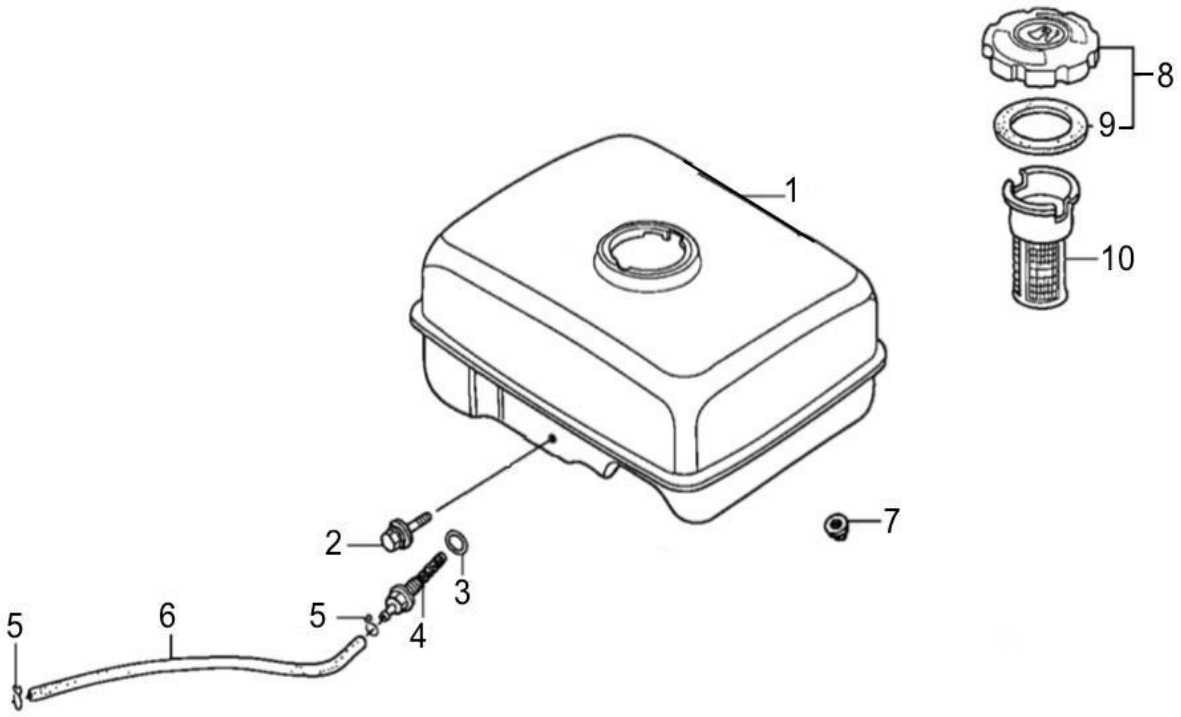
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.016.10.0.PR	MUFFLER ASSEMBLY	1
2	AP5.016.01.0.PR	MUFFLER	1
3	AP5.016.02.0.PR	MUFFLER COVER	1
4	AP5.016.03.0.PR	MUFFLER CAP	1
5	AP5.016.04.0.PR	SCREW	1
6	AP5.016.05.0.PR	HEX NUT M8	2
7	AP5.016.07.0.PR	SPARK ARRESTER	1
8	AP5.016.08.0.PR	SCREW	1
9	AP5.016.09.0.PR	SCREW	4
10	AP5.016.11.0.PR	GASKET FOR MUFFLER	1

FANCASE AND AIR HOOD



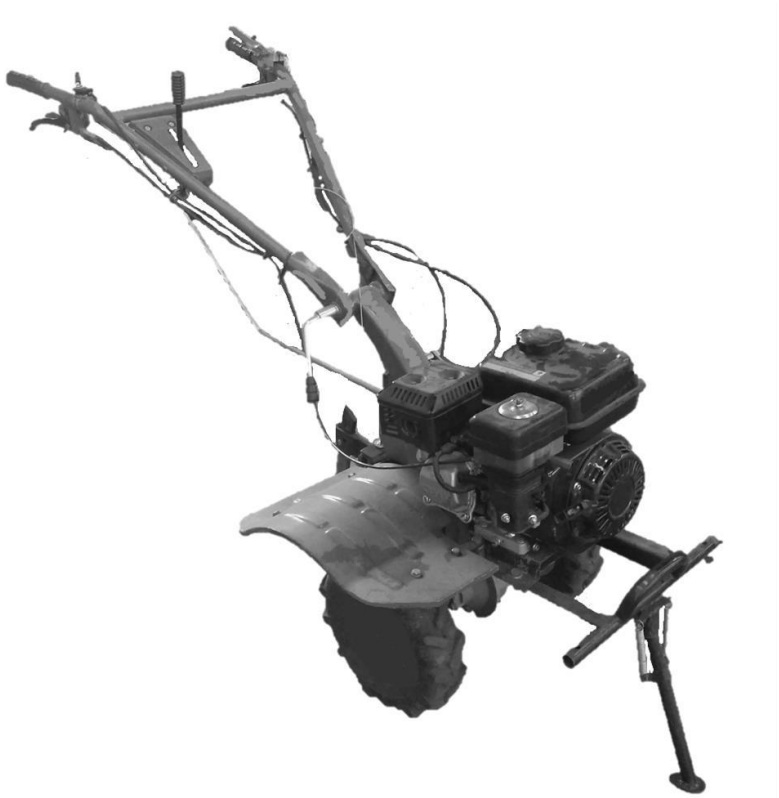
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.017.01.0.PR	REGULATING CONTROL SYSTEM	1
2	AP5.017.02.0.PR	SPRING	1
3	AP5.017.03.0.PR	BOLT ADJUSTING SCREW	1
4	AP5.017.04.0.PR	FLANGE BOLT M6X12	9
5	AP5.017.05.0.PR	AIR HOOD	1
6	AP5.017.06.0.PR	SIDE COVER PLATE WITH BRACKET	1
7	AP5.017.07.0.PR	OIL SAFEGUARD SWITCH	1
8	AP5.017.08.0.PR	ON/OFF SWITCH	1
9	AP5.017.09.0.PR	CLIP	1
10	AP5.017.11.0.PR	FLANGE BOLT M6X20	1
11	AP5.017.12.0.PR	FAN CASE	1

FUEL TANK ASSEMBLY



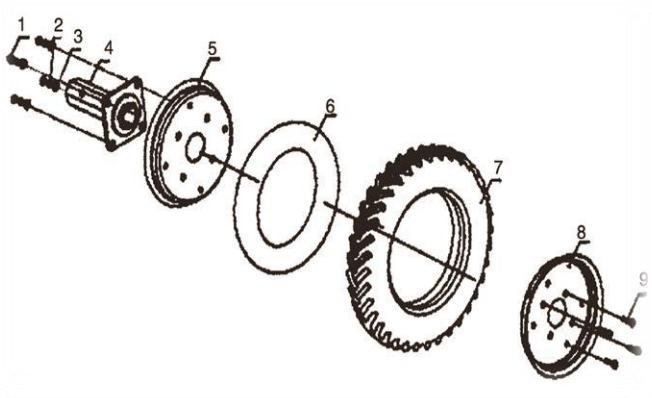
SL. NO.	PART NUMBER	DESCRIPTION	QTY
1	AP5.018.01.0.PR	FUEL TANK	1
2	AP5.018.02.0.PR	BOLT M6X30	1
3	AP5.018.03.0.PR	WASHER (RUBBER)	1
4	AP5.018.04.0.PR	FUEL NIPPLE	1
5	AP5.018.05.0.PR	FUEL HOSE CLIP	2
6	AP5.018.06.0.PR	FUEL HOSE	1
7	AP5.018.07.0.PR	FLANGE NUT M6	2
8	AP5.018.08.0.PR	FUEL TANK CAP WITH GASKET	1
9	AP5.018.09.0.PR	FUEL TANK CAP GASKET	1
10	AP5.018.11.0.PR	FUEL STRAINER	1

9.2 POWER WEEDER MINT 5 PETROL TRANSMISSION CATALOGUE



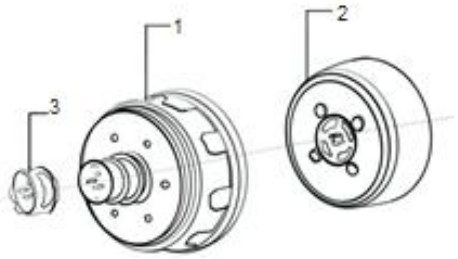
Sr. No.	Description	.
1	WHEEL ASSEMBLY	
2	CLUTCH ASSEMBLY	
3	MAIN SHAFT ASSEMBLY	
4	REVERSE SHAFT ASSEMBLY	
5	GEAR BOX ASSEMBLY	
6	DRY LAND BLADE ASSEMBLY	
7	TRANSMISSION BOX ASSEMBLY	
8	HANDLE ASSEMBLY AND CONTROLS	
9	HANDLE ASSEMBLY	

WHEEL ASSEMBLY



SR.NO.	PART NO.	DESCRIPTION	QTY.
1	57.006.10.000	NUT - M10 X 1.5	16
2	57.505.10.000	SPRING WASHER - M10	16
3	57.507.10.0.00	PLAIN PUNCHED WASHER - M10	16
4	P05.P002.021.0.00	AXLE ASSEMBLY	2
5	P08.0002.051.0.00	RIGHT RIM DIA 400	2
6	P08.0002.052.0.00	INNER TUBE DIA 400	2
7	P08.0002.153.0.00	TYRE DIA 400	2
8	P08.0002.054.0.00	LEFT RIM DIA 400	2
9	57.003.10.025	SET SCREW - M10 x 1.5 x 25	16

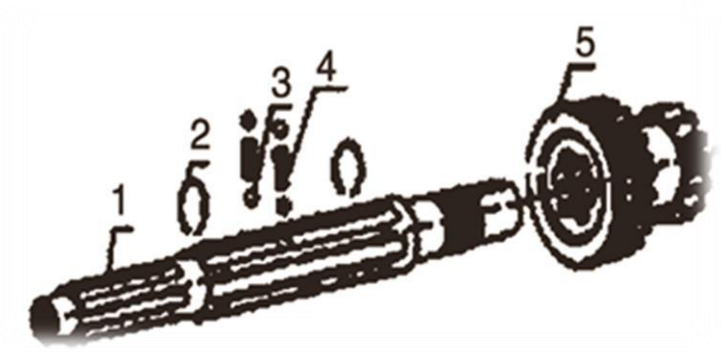
CLUTCH ASSEMBLY



SR.NO.	PART NO.	DESCRIPTION	QTY.
1	P05.P003.051.0.00	CLUTCH COVER ASSEMBLY	1
2	P05.P003.054.0.00	CLUTCH SPOOL ASSEMBLY	1
3	P08.0003.057.0.00	DEEP GROOVE BALL BEARING 6207	1
#	P08.0003.055.0.00	GLAND DISC	1
#	P08.0003.056.0.00	FRICTION DISCS	5
#	P08.0003.058.0.00	SPRING	4
#	P08.0003.102.0.00	HEX SOCKET BOLT M5 x 20	4
#	P08.0003.002.0.00	FIXING HUB	1
#	P08.0003.103.0.00	STEEL BALL DIA 3.5	29
#	P08.0003.003.0.00	MOVABLE SLEEVE	1
#	P08.0003.059.0.00	LIFT PLATE ASSEMBLY	1
#	P08.0003.061.0.00	DRIVEN DISCS	4

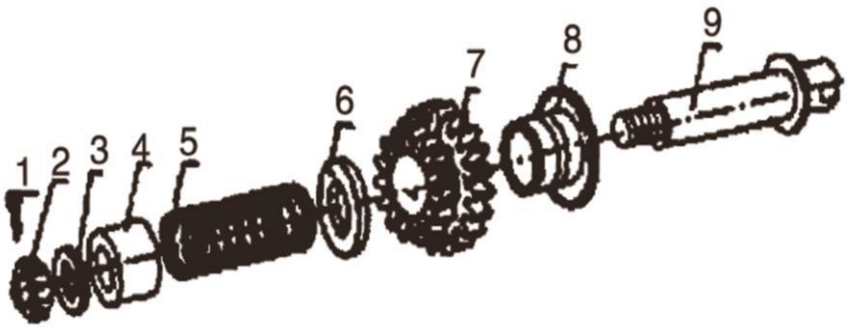
Not illustrated in the figure

MAIN SHAFT ASSEMBLY



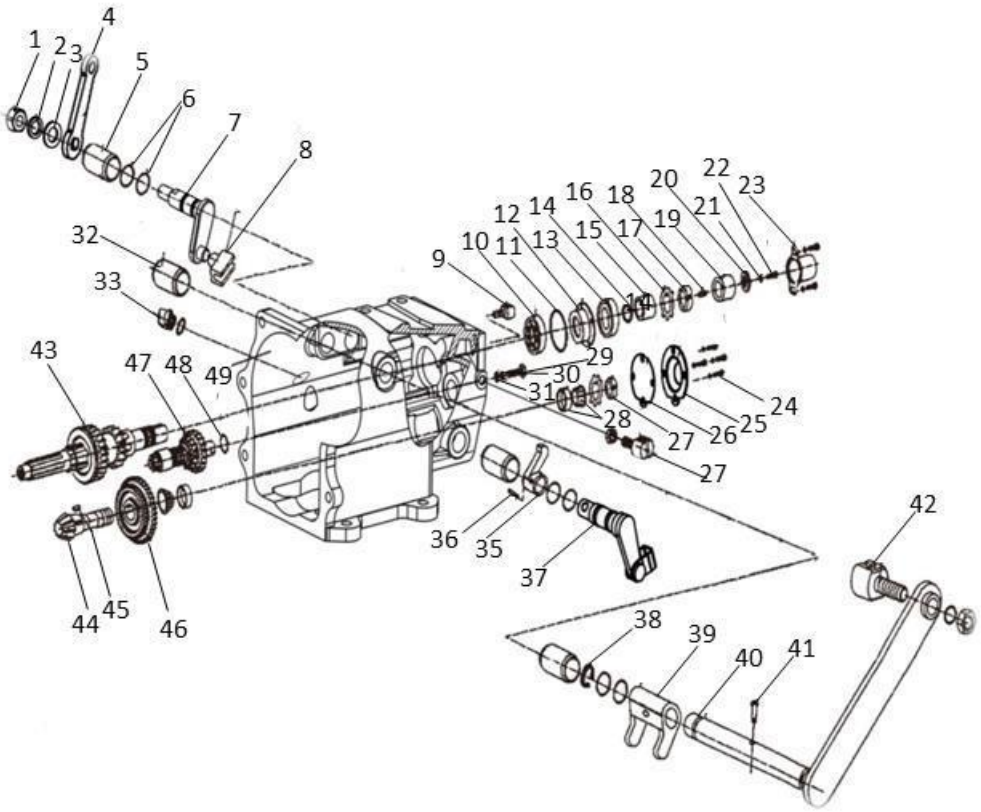
SR. NO.	PART NO.	DESCRIPTION	QTY.
1	P05.P004.001.0.00	MAIN SHAFT	1
2	P05.P004.002.0.00	STEEL RETAINING RING	2
3	50.529.05.000	STEEL BALL DIA 6	4
4	P05.P004.051.0.00	MAIN SHAFT SPRING	2
5	P05.P004.003.0.00	MAIN SHAFT DOUBLE GEAR	1

REVERSE SHAFT ASSEMBLY



SR.NO.	PART NO.	DESCRIPTION	QTY.
1	50.001.03.032	SPLIT PIN DIA 2.5 X 32	1
2	50.050.12.000	CASTLE NUT M12	1
3	57.507.12.000	PLAIN WASHER M12	1
4	P05.P005.001.0.00	REVERSE GEAR LIMIT SLEEVE	1
5	P05.P005.051.0.00	MAIN SHAFT SPRING	1
6	P05.P005.002.0.00	PLAIN WASHER DIA 22 X DIA 11 X 4	1
7	P05.P005.003.0.00	REVERSE GEAR DOUBLE GEAR	1
8	P05.P005.004.0.00	REVERSE GEAR PUSH PLATE	1
9	P05.P005.005.0.00	REVERSE GEAR SHAFT	1

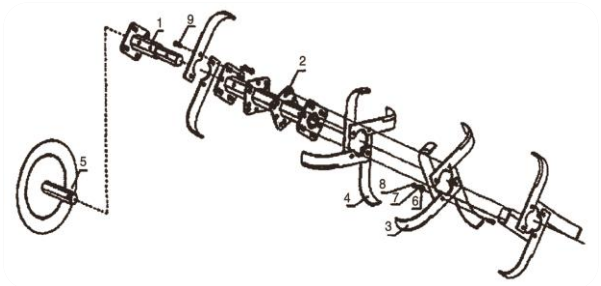
GEAR BOX ASSEMBLY



SR.NO	PART NO	DESCRIPSION	QTY
1	57.006.10.000	HEX NUT M10	1
2	57.507.10.000	SPRING WASHER M10	1
3	57.505.10.000	PLAIN WASHER M10	1
4	P05.P007.021.0.00	SHIFT GEAR ARM	1
5	P05.P007.058.0.00	SHIFTING GEAR FORK SLEEVE	1
6	P05.P007.051.0.00	O TYPE SEAL RING DIA 11.2 X 1.8	6
7	P05.P007.002.0.00	SHIFTING FORK SHAFT ASSEMBLY	1
8	P05.P007.003.0.00	SHIFTING BLOCK	1
9	P05.P007.004.0.00	CLUTCH CABLE HOLDER	1
10	P05.P007.053.0.00	DEEP GROOVE BEARING 6203	1
11	P05.P007.054.0.00	O TYPE SEAL RING DIA 37.5 X 1.8	1
12	P05.P007.005.0.00	MAINSHAFT GLAND COVER	1
13	P05.P007.055.0.00	GLAND SEAL DIA20 X DIA35 X 7	1
14	P05.P007.056.0.00	WEAR-RESISTANT MAT	1
15	P05.P007.006.0.00	MAIN SHAFT SLEEVE	1
16	P05.P007.103.0.00	THRUST WASHER DIA 16	4
17	P05.P007.104.0.00	THRUST NUT M16	1
18	P05.P007.105.0.00	PLAIN KEY 6 X 6 X 20	1
19	P05.P007.106.0.00	MAINSHAFT KEY SLEEVE	1
20	P05.P007.107.0.00	PLAIN WASHER FOR KEY SLEEVE DIA 8	1
21	57.507.08.000	SPRING WASHER M8	1
22	57.002.08.020	HEX BOLT M8 X 201	1

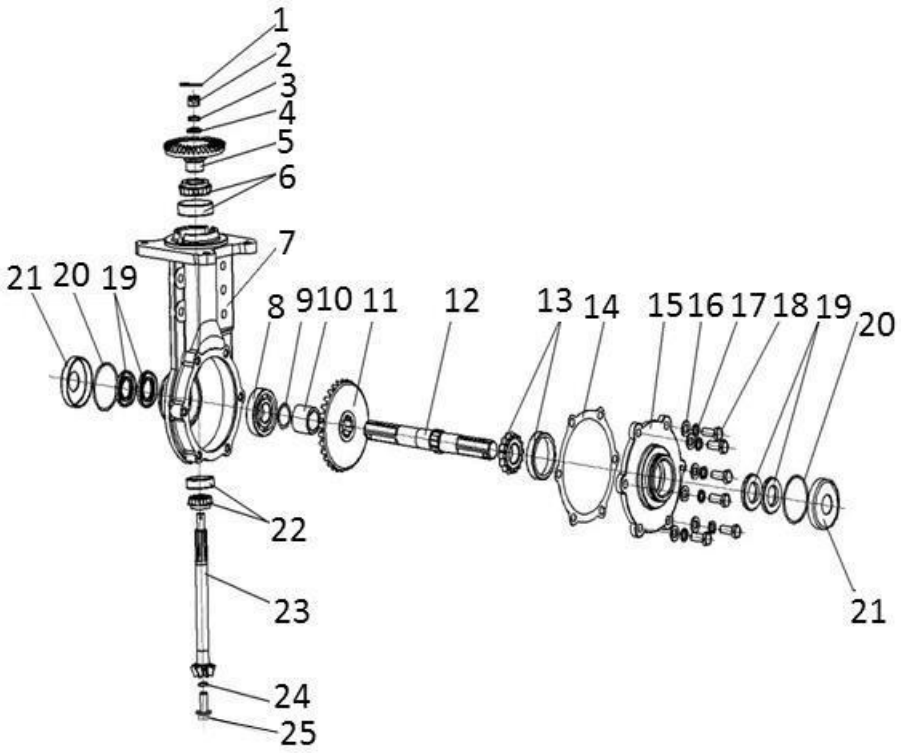
23	P05.P007.022.0.00	MAINSHAFT PROTECTION COVER	1
24	57.002.06.020	HEX BOLT M6 X 20	6
25	P05.P007.024.0.00	COUNTER GLAND	1
26	P05.P007.025.0.00	COUNTER GLAND GASKET	1
27	P05.P007.026.0.00	THRUST NUT DIA 16	1
28	P05.P007.059.0.00	TAPERED ROLLER BEARING 30203	2
29	57.002.10.025	HEX BOLT M10 X 25	1
30	57.507.10.000	SPRING WASHER M10	1
31	57.507.12.000	PLAIN WASHER M10	1
32	P05.P007.028.0.00	CLUTCH FORK SHAFT SLEEVE	2
33	P05.P007.052.0.00	OIL DIPSTICK	1
34	P05.P007.007.0.00	REVERSE CABLE SEAT	1
35	P05.P007.008.0.00	REVERSE FORK	1
36	57.002.05.035	HEX BOLT M5 X 35	1
37	P05.P007.011.0.00	REVERSE FORK SHAFT	1
38	P05.P007.123.0.00	SHAFT RETAINING RING	1
39	P05.P007.012.0.00	CLUTCH SHIFTING FORK	1
40	P05.P007.013.0.00	CLUTCH FORK SHAFT	1
41	P05.P007.014.0.00	SHAFT PIN	1
42	P05.P007.015.0.00	CLUTCH CABLE SEAT	1
43	P05.P007.016.0.00	MAIN SHAFT ASSEMBLY	1
44	P05.P007.017.0.00	SECONDARY SHAFT	1
45	P05.P007.105.0.00	PLAIN KEY 6 X 6 X 20	1
46	P05.P007.018.0.00	SECONDARY SHAFT DOUBLE GEAR	1
47	P05.P007.019.0.00	REVERSE SHAFT ASSEMBLY	1
48	P05.P007.027.0.00	O TYPE SEAL RING DIA 18 X 1.8	1
49	P05.P007.001.0.00	GEAR BOX	1

BLADE ASSEMBLY



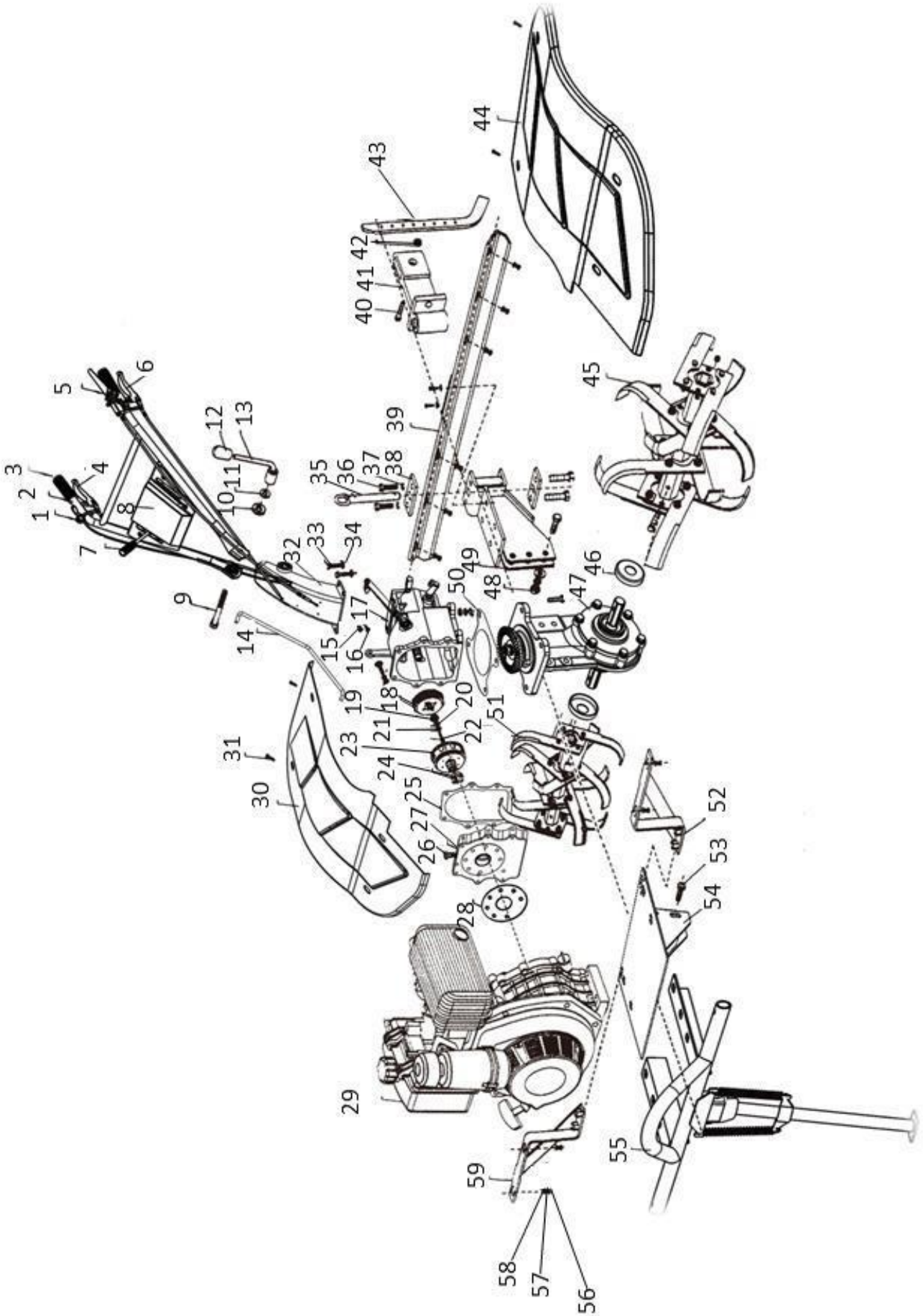
SR.NO	PART NO.	DESCRIPSION	QTY
1	P05.P008.022.0.00	AUXILLARY BLADE SLEEVE	1
2	P05.P008.021.0.00	MAIN BLADE SHAFT	1
3	P05.P008.053.0.00	DRY LAND BLADES LEFT	7
4	P05.P008.054.0.00	DRY LAND BLADES RIGHT	7
5	P05.P008.055.0.00	ROUND DISC	1
6	57.006.08.000	HEX NUT M8	16
7	57.505.08.000	SPRING WASHER M8	16
8	57.507.08.000	PLAIN WASHER M8	16
9	57.507.08.030	HEX BOLT M8 X 30	16

TRANSMISSION BOX ASSEMBLY



SR.NO	PART NO.	DESCRIPSION	QTY
1	50.001.03.032	SPLIT PIN DIA 2.5 X 32	1
2	50.050.12.000	CASTLE NUT M12	1
3	57.505.12.000	SPRING WASHER M12	1
4	57.507.12.000	PLAIN WASHER M10	1
5	P05.P009.003.0.00	DRIVEN BEVEL GEAR	1
6	P08.0009.051.0.00	TAPERED ROLLER BEARING 30206	1
7	P05.P009.001.0.00	TRANSMISSION BOX	1
8	P05.P009.055.0.00	DEEP GROOVE BEARING 6305	1
9	P05.P009.106.0.00	WEAR-RESISTANT MAT	1
10	P05.P009.005.0.00	OUTPUT SHAFT SLEEVE	1
11	P05.P009.007.0.00	TRANSMISSION BEVEL GEAR	1
12	P05.P009.006.0.00	TRANSMISSION OUTPUT SHAFT	1
13	P08.0009.051.0.00	TAPERED ROLLER BEARING 30206	1
14	P05.P009.008.0.00	TRANSMISSION BOX STEEL GASKET	1
15	P05.P009.002.0.00	TRANSMISSION BOX COVER	1
16	57.507.10.000	PLAIN WASHER M10	6
17	57.505.10.000	SPRING WASHER M10	6
18	57.002.10.030	HEX BOLT M10 X 30	6
19	P05.P009.053.0.00	OIL SEAL DIA 25 X DIA 47 X 7	4
20	P05.P009.057.0.00	OIL SEAL DIA 25 X DIA 47 X 7	2
21	P05.P009.058.0.00	DUSTPROOF CAP	2
22	P08.0009.052.0.00	TAPERED ROLLER BEARING 30204	1
23	P05.P009.004.0.00	BEVEL GEAR SHAFT	1
24	P05.P009.054.0.00	O TYPE SEAL RING DIA 1.2 X 2.65	1
25	P05.P009.105.0.00	OIL DRAIN PLUG M12 X 1.25 X 10	1

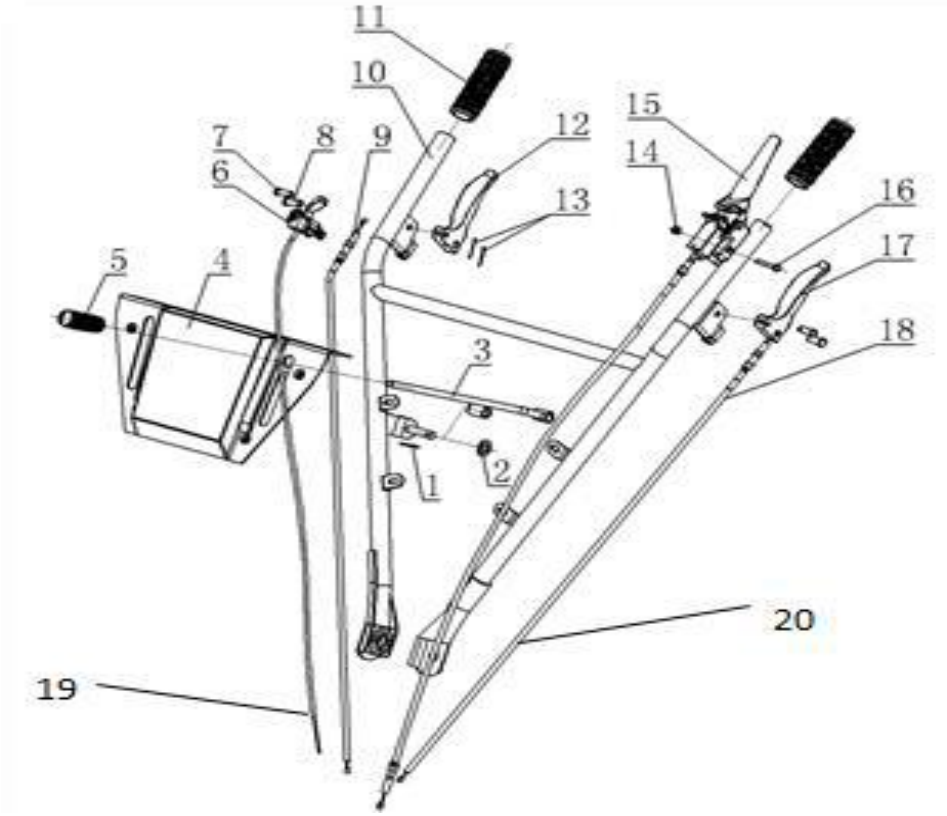
HANDLE ASSEMBLY AND CONTROLS



SL.NO	PART NO	DESCRIPSION	QTY.
1	P05.P010.053.0.00	ACCELERATOR ASSEMBLY	1
2	P05.P010.021.0.00	HANDLE ASSEMBLY	1
3	P05.P010.064.0.00	PLASTIC SLEEVE	2
4	P05.P010.026.0.00	REVERSE LEVER	1
5	P05.P010.051.0.00	EMERGENCY STOP LEVER	1
6	P05.P010.067.0.00	CLUTCH LEVER	1
7	P05.P010.022.0.00	LEVER GEAR SHIFTING	1
8	P05.P010.052.0.00	TOOL BOX	1
9	57.002.16.150	HEX BOLT M16 X 150	1
10	57.507.16.000	PLAIN WASHER M16	1
11	57.505.16.000	SPRING WASHER M16	1
12	P05.P010.122.0.00	PLASTIC SLEEVE, BRACKET HANDLE MOUNTING	1
13	P05.P010.025.0.00	LEVER LOCKING HANDLE ASSEMBLY	1
14	P05.P010.001.0.00	ROD, LEVER GEAR SHIFTING	1
15	57.505.10.000	SPRING WASHER M10	4
16	57.006.10.000	HEX NUT M10	4
17	P05.P010.002.0.00	GEAR BOX ASSEMBLY	1
18	P05.P003.054.0.00	CLUTCH SPOOL ASSEMBLY	1
19	P05.P010.106.0.00	CLUTCH WASHER DIA 26 X DIA 15 X 2.5	1
20	P05.P010.056.0.00	DEEP GROOVE BEARING 6202	1
21	50.507.08.000	PLAIN WASHER M8	1
22	57.002.08.020	HEX BOLT M8 X 20	1
23	P05.P003.051.0.00	CLUTCH COVER ASSEMBLY	1
24	P05.P010.057.0.00	DEEP GROOVE BEARING 61907	1
25	P05.P010.058.0.00	ADAPTOR PLATE GASKET	1
26	P05.P010.109.0.00	OIL DRAIN PLUG	1
27	P05.P010.003.0.00	ADAPTOR PLATE	1
28	P05.P010.069.0.00	ADAPTOR PLATE MOUNTING GASKET	1
29	P05.PC02	ENGINE	1
30	P05.P010.031.0.00	FENDER PLATE RH	1
31	57.002.06.020	HEX BOLT M6 X 20	14
32	P05.P010.023.0.00	BRACKET HANDLE MOUNTING	1
33	57.002.10.025	HEX BOLT M10 X 25	4
34	50.507.10.000	PLAIN WASHER M10	8
35	P05.P010.004.0.00	TOE BAR LOCK PIN	1
36	57.002.10.025	HEX BOLT M10 X 25	4
37	57.505.10.000	SPRING WASHER M10	4
38	P05.P010.048.0.00	SUPPORT PLATE WELDING TRAILOR BODY ASSLY	2
39	P05.P010.033.0.00	SUPPORT FRAME FOR FENDER ASSEMBLY	1
40	P05.P010.117.0.00	CLEVIS PIN DIA 8 X 40	1
41	P05.P010.034.0.00	RESISTANCE BAR CONNECTOR	1
42	P05.P010.118.0.00	R PIN DIA 8 X DIA 2 X 38	1
43	P05.P010.035.0.00	RESISTANCE BAR	1
44	P05.P010.036.0.00	FENDER PLATE LH	1
45	P05.P008.053.0.00	DRY LAND BLADES LEFT	1
46	P05.P010.041.0.00	DUST PROOF COVER	2

47	GROUPCODE	TRANSMISSION BOX ASSEMBLY	1
48	57.002.10.040	HEX BOLT M10 X 40	3
49	P05.P010.042.0.00	WELDING TRAILER BODY ASSEMBLY	1
50	P05.P010.005.0.00	GEAR BOX SEALING GASKET	1
51	P05.P008.054.0.00	DRY LAND BLADES RIGHT	1
52	P05.P010.043.0.00	FRONT SUPPORT BRACKET RIGHT	1
53	57.002.10.040	HEX BOLT M10 X 40	2
54	P05.P006.044.0.00	ENGINE SUPPORT PLATE	1
55	P05.P006.021.0.00	BUMPER ASSEMBLY	1
56	57.006.06.000	HEX NUT M6	8
57	57.505.06.000	SPRING WASHER M6	8
58	50.507.06.000	PLAIN WASHER M6	8
59	P05.P010.046.0.00	FRONT SUPPORT BRACKET RIGHT	1

HANDLE BAR ASSEMBLY



SR.NO.	PART NO	DESCRIPSION	QTY
1	50.001.03.025	SPLIT PIN DIA 2.5 X 25	4
2	57.507.12.000	PLAIN WASHER M12	1
3	P05.P010.022.0.00	LEVER GEAR SHIFTING	1
4	P05.P010.052.0.00	TOOL BOX	1
5	P05.P010.123.0.00	PLASTIC SLEEVE, GEAR LEVER SHIFTER	1
6	P05.P010.053.0.00	ACCELERATOR ASSEMBLY	1
7	P05.P010.119.0.00	PIN SHAFT DIA 7 X 22	2
8	P05.P010.121.0.00	PIN SHAFT DIA 10 X 22	2
9	P05.P010.059.0.00	CLUTCH CABLE	1
10	P05.P010.021.0.00	HANDLE ASSEMBLY	1
11	P05.P010.064.0.00	PLASTIC SLEEVE	2
12	P05.P010.067.0.00	CLUTCH LEVER	1
13	50.001.02.025	SPLIT PIN DIA 1.6 X 25	1
14	57.006.08.000	HEX NUT M6	1
15	P05.P010.051.0.00	EMERGENCY STOP LEVER	1
16	57.002.06.050	HEX BOLT M6 X 50	1
17	P05.P010.026.0.00	REVERSE LEVER	1
18	P05.P010.062.0.00	REVERSE CABLE	1
19	P05.P010.061.0.00	ACCELRATOR CABLE	1
20	P05.P010.068.0.00	EMERGENCY STOP CABLE	1

10. Service Coupons & Check List

1st Free Service (50 hrs. or 1 month)	**1st FREE SERVICE COUPON (50 hrs. or 1 month from Date of Sale whichever is earlier)**		**Coupon No. :**
Date of Service :	**Model :**	**Date of Sale :**	
Chassis No. :	**Engine No. :**	**Date of Service :**	
No. of working hours :	**Chassis No. :**	**Next Service Due Date :**	
Dealer's Stamp & Sign. :	**Owner's Name :**	**Signature**	**Dealer's Seal & Signature**
	Technician's Name :	**Signature**	

KIRLOSKAR OIL ENGINES LIMITED

2nd Free Service (200 hrs. or 5 months)	**2nd FREE SERVICE COUPON (200 hrs. or 5 months from Date of Sale whichever is earlier)**		**Coupon No. :**
Date of Service :	**Model :**	**Date of Sale :**	
Chassis No. :	**Engine No. :**	**Date of Service :**	
No. of working hours :	**Chassis No. :**	**Next Service Due Date :**	
Dealer's Stamp & Sign. :	**Owner's Name :**	**Signature**	**Dealer's Seal & Signature**
	Technician's Name :	**Signature**	

Check List For 1 st Free Service				
Sr. No.	**Mark √after each operation is completed**	**Mark**	**Mark √after each operation is completed**	**Mark**
1	Clean Weeder thoroughly		Check abnormal noise and vibration	
2	Clean crank case after running the engine for 5-10 minutes, clean oil screen assembly.		Check all control lever function	
3	Change engine oil and refill with recommended grade & quantity of engine oil		Clean dirt, dust & grass from the blades properly	
4	Clean air cleaner and filtering element. Change oil.			
5	Lubricate all moving parts.			
6	Check cylinder head nuts. Tighten the nut to the recommended torque.			
7	Check and tighten all nuts and bolts to the recommended torque.			
8	Adjust valve clearance as recommended.			
9	Clean fuel filter element, change it if necessary.			
10	Tighten the rotary blades Nuts and Bolts			
11	Tighten the Chassis stud and bolts			
12	Tighten the Wheel Nuts			
13	Start engine and follow.			

Check List For 2 nd Free Service				
Sr. No.	**Mark √after each operation is completed**	**Mark**	**Mark √after each operation is completed**	**Mark**
1	Clean Weeder thoroughly		Drain, flush and fill Transmission case oil with recommended grade	
2	Clean crank case after running the engine 5- 10 minutes, clean oil screen assembly.		Start engine and follow.	
3	Change engine oil and refill with recommended grade & quantity of engine oil		Check all control lever function	
4	Clean air cleaner and filtering element. Change oil.		Clean dirt, dust & grass from the blades properly	
5	Lubricate all moving parts.			
6	Check cylinder head nuts. Tighten the nut to the recommended torque.			
7	Check and tighten all nuts and bolts to the recommended torque.			
8	Adjust valve clearance as recommended.			
9	Clean fuel filter element, change it if necessary.			
10	Tighten the rotary blades Nuts and Bolts			
11	Tighten the Chassis stud and bolts			
12	Tighten the Wheel Nuts			
13	Drain, flush and fill Transmission case oil with recommended grade			
14	Set engine speed at no load.			

11. PDI check list

PDI CHECK LIST		
Sr. No.	**Engine**	**Mark**
1	Check Engine Oil and Top up to Recommended Level	
2	Check Fuel Tank And fuel lines for leakage & tighten if required	
3	Check air cleaner oil and Top up to the mark	
4	Check Engine foundation bolts and tighten, if necessary	
5	Crank the engine 3 - 4 times	
6	Check exhaust condition	
7	Check abnormal sound	
8	Check vibration	
9	Check engine speed and hunting	
10	Check for oil leakage	

Sr. No.	**Supportive Aggregates**	**Mark**
1	Check gear box oil and Top-up the level	
2	Lubricate all moving parts of joints and lever	
3	Check tyre pressure	
4	Check all bolts and nuts and tighten, if necessary	
5	Check and Tighten the wheel nuts and all blades nut & bolts before every usage in field	
6	Check all control lever function	

PDI Coupon No. :

Model :	**Engine No. :**	**Chassis No. :**	**Invoice No. :**
Dealer's Name : _____		**Dealer Code :**	**Signature**
Technician's Name : _____			**Signature**
Remarks if any : _____ _____ _____			**Customer's Signature**