

FX65



CHAMPIONS START HERE.™

*Owners
Parts
Service
Tuning*

For **parts orders** contact your local dealer

To locate your closest Cobra dealer
log on to

www.cobramotorcycle.com

or call

(517) 437 9100

If you need **technical assistance**
contact your local dealer or call
the Cobra Technical Support Hotline at
+1(517) 437 9100



Cobra MOTO, LLC
240 Uran Road
Hillsdale, MI 49242

DISCLAIMER OF WARRANTY

This motorcycle is sold “as is” with all faults, obvious or not. There are no warranties expressed or implied, including any warranty of merchantability and warranty of fitness for any particular purpose.

“WARNING”

THE COBRA CX65 IS A COMPETITION MODEL ONLY AND IS NOT MANUFACTURED FOR, NOR SHOULD IT BE USED ON PUBLIC STREETS, ROADS OR HIGHWAYS.

THE USE OF THIS BIKE SHOULD BE LIMITED TO PARTICIPATION IN SANCTIONED COMPETITION EVENTS UPON A CLOSED COURSE BY A SUFFICIENTLY SKILLED RIDER AND SHOULD NOT BE USED FOR GENERAL OFF-ROAD RECREATIONAL RIDING.

IMPROPER USE OF THIS MOTORCYCLE CAN CAUSE INJURY OR DEATH.

THIS BIKE IS INTENDED FOR EXPERIENCED RACERS ONLY AND NOT FOR BEGINNERS.

IT IS YOUR RESPONSIBILITY AS THE OWNER OF THIS COBRA MOTORCYCLE OR AS THE PARENT, OR LEGAL GUARDIAN OF THE OPERATOR, TO KEEP THIS COBRA MOTORCYCLE IN PROPER OPERATING CONDITION.

THIS BIKE WAS DESIGNED FOR RIDERS THAT WEIGH LESS THAN 110 LBS WITH FULL RIDING GEAR AND SHOULD NOT BE OPERATED BY RIDERS THAT WEIGH MORE THAN THAT.

BE SURE THAT THE RIDER ALWAYS WEARS ADEQUATE SAFETY GEAR EVERYTIME HE OR SHE RIDES THEIR COBRA MOTORCYCLE.

IMPORTANT SAFETY NOTICE

WARNING

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the machine.

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the machine.

NOTE:

A NOTE provides key information to make procedures easier or clearer.

Table of Contents

| | |
|--|-----------|
| GENERAL INFORMATION..... | 6 |
| SPECIFICATIONS - GENERAL | 6 |
| OPTIONAL COMPONENTS..... | 7 |
| SPECIFICATIONS - TORQUE VALUES | 8 |
| BREAK-IN PROCEDURE..... | 9 |
| STARTING PROCEDURE | 10 |
| MAINTENANCE..... | 11 |
| TIPS..... | 11 |
| SCHEDULE..... | 11 |
| REPLACING TRANSMISSION / CLUTCH LUBRICANT | 12 |
| CHAIN ADJUSTMENT | 13 |
| LEVER ADJUSTMENT | 14 |
| REAR BRAKE MAINTENANCE | 14 |
| AIR FILTER CLEANING | 16 |
| FORK MAINTENANCE | 16 |
| FORK AIR BLEEDING | 17 |
| FORK OIL REPLACEMENT | 17 |
| IGNITION TIMING | 19 |
| CABLE TIES | 20 |
| PARTS..... | 21 |
| PARTS – AIR BOX & INLET SYSTEM | 21 |
| PARTS – BARS AND CONTROLS..... | 22 |
| PARTS - CARBURETOR | 23 |
| PARTS – CLUTCH – MASTER CYLINDER | 24 |
| PARTS – COOLANT SYSTEM..... | 25 |
| PARTS – ELECTRICAL SYSTEM..... | 26 |
| PARTS – ENGINE CLUTCH..... | 27 |
| PARTS – ENGINE – CLUTCH / KICK COVER..... | 28 |
| PARTS – ENGINE – IGNITION SIDE | 29 |
| PARTS – ENGINE – KICK MECHANISM & WATER PUMP | 30 |
| PARTS – ENGINE – SHIFT MECHANISM | 31 |
| PARTS – ENGINE – TOP END | 32 |
| PARTS – ENGINE – TRANSMISSION..... | 34 |
| PARTS – ENGINE – POWER VALVE | 36 |
| PARTS – EXHAUST SYSTEM..... | 37 |
| PARTS – FORKS & TRIPLE CLAMPS | 38 |

| | |
|--|-----------|
| PARTS – FORK – LEG ASSEMBLY – BRAKE SIDE..... | 40 |
| PARTS – FORK – LEG ASSEMBLY – NON-BRAKE SIDE | 41 |
| PARTS – FRAME..... | 42 |
| PARTS – FRONT WHEEL | 43 |
| PARTS – FRONT BRAKES – MASTER CYLINDER..... | 44 |
| PARTS – FRONT BRAKES – CALIPER..... | 45 |
| PARTS – PLASTIC BODYWORK & SEAT | 46 |
| PARTS – REAR BRAKE..... | 48 |
| PARTS – REAR WHEEL | 49 |
| PARTS – SHOCK EXTERNAL | 50 |
| PARTS – SHOCK – INTERNAL | 51 |
| PARTS – SWINGARM ASSEMBLY..... | 52 |
| SERVICE | 53 |
| ENGINE SERVICE | 53 |
| <i>Base Gasket Selection</i> | <i>54</i> |
| POWER VALVE..... | 55 |
| EXHAUST..... | 57 |
| FUEL & AIR SYSTEM..... | 57 |
| CARBURETOR: | 57 |
| REAR SHOCK..... | 58 |
| BRAKES..... | 59 |
| <i>Rear Brakes</i> | <i>59</i> |
| <i>Front Brakes.....</i> | <i>60</i> |
| FRONT WHEEL..... | 60 |
| <i>Assembly.....</i> | <i>60</i> |
| IGNITION..... | 61 |
| TUNING | 62 |
| GEARING..... | 62 |
| SUSPENSION | 63 |
| <i>Adjustment:</i> | <i>63</i> |
| <i>Front Fork Operation</i> | <i>63</i> |
| <i>Fork Damping Adjustments</i> | <i>64</i> |
| <i>Rear Shock Adjustments</i> | <i>65</i> |
| CARBURETOR | 66 |
| TROUBLESHOOTING..... | 68 |

General Information

Specifications - General

| Items | CX65 |
|---------------------------------|---|
| Dimensions | |
| Wheelbase | 40.9" (1040mm) |
| Wheel size | 12" (305mm) rear, 14" (356mm) front |
| Seat height | 29.9" (760mm) |
| Engine | |
| Type | 2-stroke, single cylinder, reed valve |
| Cooling system | Liquid-cooled |
| Coolant | <i>Spectro Year - Round Super Coolant</i> |
| Displacement | 64.9 cc |
| Bore and stroke | 44.5 mm x 41.7 mm |
| Ignition system | Electronic, digital advance |
| Spark plug | Autolite 4063 or XS4063 |
| Gap | 0.024" – 0.026" (0.60 – 0.65 mm) |
| Ignition timing | Digital advance (set at "0" timing mark) |
| Fuel type | High octane pump gasoline |
| Premix Oil type | Spectro Platinum SX ₂ |
| Premix oil ratio after break-in | 32:1 |
| Carburetion | 26 mm VM Mikuni |
| Main Jet / Slow (Pilot) Jet | 280 / 42.5 |
| Needle | 5I 14 - 4 |
| Needle clip position | 4 th slot from top of needle- stock position |
| Float Height | 21.1 ± 1.0 |
| Transmission | 6 speed |
| Final drive ratio | 14/45 |
| Chain | 112 links 420 |
| Transmission / clutch oil type | Spectro Golden SAE 80 Gear Lube |
| Quantity | 530 ml (18.0oz) |
| Chassis | |
| Front tire | 60/100 – 14 |
| Rear tire | 80/100 – 12 |
| Front fork | CARD 37mm USD, Fully adjustable |
| Fork oil type | SAE 5.0 WT |
| Fork oil amount | 250 ml (8.5oz) |
| Adjustments (turns out) | Compression 1 1/2, Rebound 5/8, Bottoming 1 |
| Rear shock (clicks out) | Compression Low 12, High 15, Rebound 16 |
| | Race sag 87mm, Free sag 29mm |



Optional Components

| Weight of Rider | Fork Spring | Shock Spring |
|------------------|------------------------|--|
| Less than 70 lb | 0.24 kg/mm KCC63724 | 38.5 N/mm (220 lb/in) SCC60220P (red) |
| 70 - 80 lb | 0.24 kg/mm KCC63724 | 42 N/mm (240 lb/in) SCC60240P (white) |
| 80 - 90 lb | 0.26 kg/mm KCC63726 | 45 N/mm (260 lb/in) SCC60260PY stock (yellow) |
| 90 - 100 lb | 0.28 kg/mm KCC63728 | 49 N/mm (280 lb/in) SCC60280PG (gold) |
| Greater than 100 | | 53 N/mm (300 lb/in) SCC60300 (red) |

Specifications - Torque Values

| Fastener | Torque Value | | | Note or Loctite™ | Size & Remarks |
|--------------------------|--------------|-------|------|---------------------|----------------|
| | ft-lb | in-lb | Nm | | |
| Cylinder head nuts | 9 | 110 | 12 | | M6 x 1.0 |
| Cylinder nuts | 22 | 265 | 30 | | M8 x 1.25** |
| Crankcase bolts | 9 | 110 | 12 | | M6 x 1.0 |
| PV Cap Screws | 3 | 35 | 4 | | M5 x 0.8 |
| Exhaust Flange | 4.5 | 53 | 6 | | M6 x 1.0 |
| Spark plug | (SP) | (SP) | (SP) | | M14 x 1.25 |
| Stator bolts | 2.1 | 25 | 2.8 | 243 blue | M5 X 0.8 |
| Stator cover bolts | 1.7 | 20 | 2.3 | | M4 X 0.75 |
| Clutch cover bolts | 5.8 | 70 | 7.9 | | M6 X 1.0 |
| Clutch nut | 40 | 480 | 54 | 243 blue | M10 x 1.25 |
| Crank drive nut | 33 | 400 | 45 | 243 blue | M10 x 1.25 |
| Front axle bolt | 33 | 400 | 45 | | M20 x 1.0 |
| Front axle pinch bolt | 8.8 | 106 | 12 | | M6 X 1.0 |
| Fork guard alum bolts | 6 | 88 | 8 | Moly lube | M6X1, ALUM |
| Front brake rotor | 7.4 | 88.5 | 10 | | M6 x 1.0 |
| Engine mount bolts | 22 | 265 | 30 | | M8 X 1.25 |
| Swingarm pivot | 21 | 250 | 28 | | M12 X 1.5 |
| Intake manifold bolts | 4.6 | 55 | 6.2 | | M6 X 1.0 |
| Rear axle | 21 | 250 | 28 | | M14 X 1.5 |
| Rear sprocket | 21 | 250 | 28 | | M7 X 1.0 |
| Rear brake rotor | 7.4 | 88.5 | 10 | 243 blue | M6 x 1.0 |
| Rear brake banjo bolts | 11 | 132 | 15 | | M8x1.25 |
| Rear brake pad bolts | 3 | 35 | 4 | Retainer clip | M5 x 0.8 |
| Shock bolt | 35 | 420 | 47 | 243 blue | M10 x 1.5 |
| Triple clamp bolt (top) | 8 | 90 | 10 | | M8 x 1.25 |
| Steering stem pinch bolt | 9.5 | 115 | 13 | | M8 x 1.25 |
| Triple clamp bolts | 6 | 72 | 8 | | M6 x 1.0 |
| Lever pivot bolts | 2.1 | 25 | 2.8 | 243 blue | M5 x .8 |
| Fork cap | 15 | 177 | 20 | | |
| Fork Damper Nut | 11 | 133 | 15 | | |
| Ignition rotor nut | 33 | 400 | 45 | 243 blue | M10 x 1.25 |
| Spoke nipple – front | 3.7 | 44 | 5 | | |
| Spoke nipple - rear | 4.5 | 53 | 6 | | |

** Use a 'crows foot' attachment oriented 90° to the torque wrench

(SP) To apply the proper torque to the spark plug when inserting, one must first screw the spark plug in until the metal gasket ring causes resistance and then turn another 1/8 to ¼ turn.

Break-In Procedure

Your Cobra CX65 is a close-tolerance high performance machine and break-in time is very important for maximum life and performance. The CX65 can be ridden hard after the first ½ hour break-in time.

Cobra recommends Spectro Platinum SX₂ premix oil with high octane pump gas mixed at 40:1.

CAUTION:

Failure to use proper fuel, oil, or fuel/oil mixture may result in premature engine wear or damage to the machine.

Adhering to the following break-in schedule will result in long lasting high performance machine.

- Start bike on stand
- First 5-minute period, operate the bike on the stand with a combination of idle and high RPM operation. (avoid prolonged high RPM but spin the rear wheel good at least once or twice per minute)
- Allow bike to cool
- Ride for 15 minutes, maximum (avoid prolonged high RPM operation and avoid abusing the clutch).
- Cool and inspect bike for loose fasteners.
- Check & retighten wheel spokes
- Next ½ hour of operation, avoid prolonged operation at Wide Open Throttle.
- After 1 hour of operation
 - Check for loose bolts and nuts on the bike and retighten as necessary (proper torque values are listed under Specifications).
 - Clean the carburetor bowl.
 - Change the transmission / clutch lubricant.
- After 8 hours of operation
 - Change the fork oil.
 - Have a Certified Cobra Mechanic change the shock oil.
- Your bike is now ready for the highest level of competition!

Starting Procedure

Before starting the machine inspect the following:

- Check for proper tire pressure in both tires.
- Observe the chain tension and adjust if necessary.
- Observe the coolant level and fill if necessary.
- Verify that the chain rollers and sliders do not have improper wear.
- Verify that the handlebars are tight.
- Check the throttle for smooth operation and sound closing.
- Check for loose bolts and nuts, and re-torque as necessary.
- Verify that the air filter is clean and properly saturated with oil.
- Insure that the fuel tank contains an adequate volume of fuel / oil mixture to complete the distance required.
- Turn the fuel on by rotating the fuel petcock lever to the vertically downward position.

CAUTION:

For best results from your Cobra Motorcycle use only the recommended fuels. 'Race' fuels can be used, however, they are not required with the stock engine, and the engine will require addition attention to maintain proper jetting as weather condition change throughout the day.

WARNING

Always wear a helmet and other protective riding gear.

When your pre-ride inspection is complete the bike may be started. For a cold engine follow this procedure.

1. Place the motorcycle on a stand of sufficient strength that positions the motorcycle in a level upright position with the rear wheel off the ground.
2. Engage the choke by pulling out on the choke button until it stops.
3. Kick start the engine.
4. Rev the engine in short spurts, turning the throttle no more than 1/4 open until the engine will run without the choke.
5. Verify a functional engine shut-off switch by shutting off the engine.
6. Restart the engine and proceed with riding when the engine is sufficiently warm (i.e. the side of the cylinder is warm to touch).

CAUTION:

Never rev an engine full throttle when it's cold or slightly warmed up. This may lead to premature wear of engine components or complete cold seizure of the engine.

CAUTION:

Cobra recommends that you tell your child to take it easy the first couple of minutes in practice until the engine comes up to full operating temperature.

Maintenance

It is important that you adhere to this maintenance schedule so as to promote the longevity of your Cobra Motorcycle.

Tips

1. Cobra lubricants:
 - a. *Spectro Golden SAE 80 Gear Lube* is the recommended transmission & clutch case lubricant.
 - b. Spectro Platinum SX₂ oil is the recommended **premix oil**:
2. Fill your transmission only with the recommended amount of oil. Overfilling may lead to premature seal failure.
3. The cylinder base gasket has been 'fitted' for your engine. See the service section of this manual for instructions how to properly size a base gasket during an engine rebuild.
4. Evaluate the bikes jetting only after it has been warmed up to race temperatures.
5. A properly maintained machine is safer, faster, and more fun to ride.
6. New chains will stretch on first use. Never install a new chain prior to a race. Always 'break' them in during practice.
7. Your Cobra Motorcycle has a 10-digit VIN (Vehicle Identification Number). The first three digits indicate the model while the sixth and seventh indicates the model year.
 - a. Example, CCXxx17xxx is a 2017 CX65.

Schedule

- Prior to each ride
 - Check the air filter (clean and re-oil as necessary).
 - Insure the smooth operation of the throttle cable (throttle soundly 'clacks' shut).
 - Check for frayed strands of the throttle cable inside the throttle housing and replace if necessary.
 - Check for adequate tire pressures and adjust if necessary.
 - Check all nuts and bolts for proper torque and re-torque if necessary.
 - Check drive chain for
 - Proper tension and adjust if necessary.
 - Adequate lubrication and lubricate if necessary.
 - Insure that the ignition stator and rotor are clean and dry.
 - Check the frame for cracks in the metal or cracks in the paint that might indicate that the metal has been stressed beyond its safe limits. Replace or get properly re-welded as necessary.
 - Check the spokes for tightness and adjust if necessary.
 - Check the rims and hubs for signs of stress, like cracks around the rim, spokes and hub.
 - Equalize the pressure in the forks with atmosphere.
 - Check for adequate brake operation and pad thickness

- Every 2 hours of operation
 - Replace the transmission oil.
 - Check spoke tension
- Every 10 hours of operation
 - Replace the fork oil.
 - Have the shock oil replaced by a Certified Cobra Mechanic
- Every 15 hours
 - Replace piston rings
 - Inspect piston for wear and cracks.
 - Clean the power valve (no adjustment necessary)
 - Inspect the power valve cable.

CAUTION:

If you ever need to weld anything on the bike, disconnect the spark plug cap, unplug the ignition, disconnect the kill switch, scrape the paint bare near the area to be welded and put the ground clamp as close to the area to be welded as possible.

WARNING

Be sure the fuel tank and carburetor have been removed and safely located away from the welding process.

The frame is a combination of HSLA steel and 4130 Chrome Moly and it is important to weld it with the proper rod and heat settings set as light as possible. Cobra recommends replacing the frame with a new one if the old one becomes damaged. Use ER70S6 filler if welding on the frame.

Replacing Transmission / Clutch Lubricant

Tools needed:

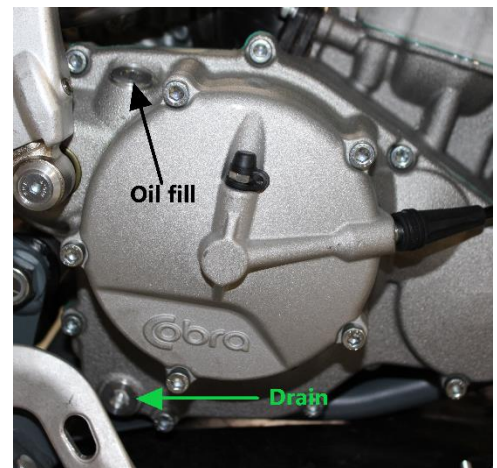
- 18 oz, of Spectro Golden SAE 80 Gear Lube
- 8 mm Allen wrench

CAUTION:

General automotive motor oil has frictional modifiers which will cause premature wear and failure of the clutch.

Procedure:

1. Begin this procedure with a bike that has been ridden more than 5 minutes but less than 10 minutes. It is desired to have the engine warm enough so that the oil is 'runny' but not so hot that there is risk of being burned by the engine or the oil.



WARNING

Hot oil and hot components on the motorcycle may cause burns.

2. Lean the bike against something or set on stand with oil drain hole.
3. Using an 8mm Allen wrench, remove the oil drain bolt located on the right side of the engine, on the clutch cover, near the brake lever (See Figure 1).

NOTE: You may need to adjust the brake pedal (up or down) to gain access to the drain bolt.

4. After it has drained, reinstall the bolt being sure that the rubber gasket is in place. Torque to 11 Nm (8 ft-lb).
5. Remove oil fill plug with an 8mm Allen wrench.
6. Carefully pour 16 oz (470 ml) of transmission oil into the oil fill opening.
7. Reinstall the oil fill plug making sure the rubber gasket is in place.

NOTE: Filling after an engine rebuild required additional transmission fluid. If the engine is completely flushed of oil, refill with 18 oz (530ml).

⚠ WARNING

Always capture and dispose of used oil properly (all auto parts stores accept used oil). Dumping oil on the ground is illegal, inconsiderate, and can get you disqualified from a race weekend quicker than cutting the track.

Chain adjustment

Tools required for chain adjustment

- 22 mm wrench or socket
- 2 - 11 mm open-end wrenches

1. Make sure that the rear wheel is aligned properly.
2. For proper adjustment, the chain should have 35 mm free movement just behind the chain block with no load on the bike (Figure 2)

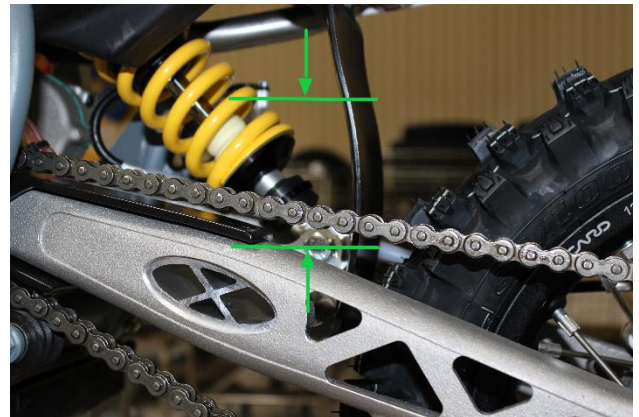


Figure 2

CAUTION: Sit on the bike and verify that the chain has a minimum of 12mm (1/2") free movement when the chain is at its tightest point.

3. If the chain requires adjusting, loosen the axle with a 22mm wrench, and loosen the jam nut with an 11mm wrench. Tighten the chain by rotating the adjuster bolts clockwise (CW) or loosen the chain by rotating the adjuster bolts (CCW).
4. Put a rag between the sprocket and chain, and roll the wheel backward to pull the chain adjuster blocks tightly against the adjuster bolts (Figure 3).



Figure 3

5. Retighten the axle bolt to 25 ft-lb (34 Nm).
6. Retighten the adjustor jam nuts.

CAUTION:

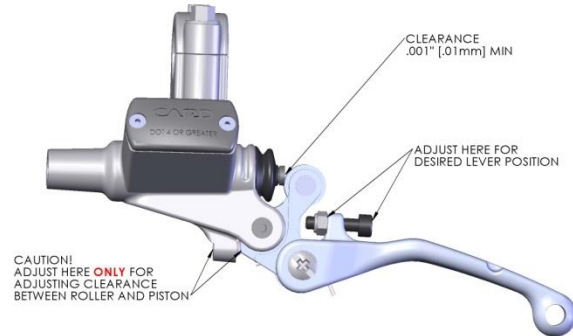
Always check rear brake adjustment and free-play after adjusting the chain.

Lever Adjustment

Tools required for chain adjustment

- 4mm Hex Wrench
- 8mm Open End Wrench

For lever position adjustment use a 4mm hex wrench and an 8mm open end wrench to adjust the socket head cap screw between the lever and the bars.



CAUTION:

The small set screw in the master cylinder housing controls freeplay/clearance between the piston and the roller. Improper adjustment of this screw will promote brake or clutch failure. This screw is preset at the factory. If it requires adjustment over time (as the screw tip makes an indentation in the aluminum) set it so that there is a minimal .001" (.001mm) clearance between the roller and the head of the piston (see figure).

Rear Brake Maintenance

CAUTION:

Too little brake pedal free-play will allow the brake pads to drag causing the pads to wear prematurely and possible engine component failures. Too much free-play will not allow the rider to apply the brakes quickly.

1. Set pedal height/position first, then
2. Set pedal free play.

Brake pedal height can be adjusted with the bolt and eccentric located under the rear of the brake pedal. The free-play is adjusted with the adjustable plunger on the end of the brake pedal.

CAUTION:

Use only DOT 4 compatible brake fluid

Setting rear brake pedal position:

1. Loosen the Cap Screw in the Eccentric (5mm Allen wrench).
2. Rotate the eccentric so that the lever is comfortably reachable in both:
 - a. Standing riding position, and
 - b. Sitting riding position.
3. Tighten Cap Screw (5 mm Allen wrench).

CAUTION:

Adequate pedal free play is required so that the brake pads do not drag on the rotor.

⚠ WARNING

Make sure that the free play locking clip is installed such that one must push forward, toward the front of the bike, to remove. Otherwise the clip is apt to come undone while riding.

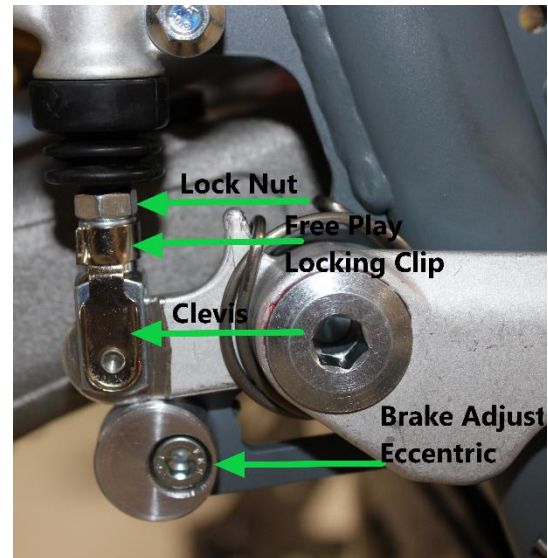


Figure 2b

To **adjust freeplay** (see figure 2b):

1. Loosen the lock nut (10mm).
2. Undo the free play locking clip from around the brake adjustor (plunger), with your hand by pushing it forward.
3. Slide the pin of the locking free play locking clip from the brake lever
4. Adjust as needed by rotating the clevis on the end of the adjustor (plunger).

NOTE: Turning the clevis Clockwise will lengthen the adjustor (plunger), removing free play from the system, and turning the clevis Counter-Clockwise will shorten the adjustor (plunger) adding free play to the system.

Air Filter Cleaning

Tools recommended for air filter maintenance:

- 5 mm hex key (Allen)
- Foam filter oil

1. Removed seat with the 5mm hex key.
2. Unhook the air filter wire from its perch
3. Carefully remove the air filter and frame out the top of the airbox making sure not to dislodge any dirt into the intake tract.
4. Clean the filter in a nonflammable solvent to remove the filter oil.

WARNING

Do not clean the air filter with gasoline or other highly volatile petroleum product. Diesel fuel, mineral spirits, or kerosene would be preferred but caution should still be taken.

5. Clean the filter in hot soapy water to remove all dirt particles.
6. Allow it to dry thoroughly.
7. Saturate with filter oil and remove excess.

NOTE: It is very important to keep the air filter clean and properly oiled with high quality water-resistant foam filter oil. Apply oil consistently because varied amounts of oil will affect carburetor jetting.

8. **Reinstall** the filter assembly by pushing it down and forward into the airbox making sure the lip of the filter cage is properly seated into its receptacle (figure 5). Reinstall the air filter cap and holding wire.



Figure 5

CAUTION:

Double check to insure that the filter is pushed in tight at the bottom

NOTE: Make sure you change or clean your filter after each moto. We recommend carrying multiple filters in your toolbox, one for each practice session and moto.

Fork Maintenance

Cobra strongly recommends that a professional service technician conduct all internal maintenance other than changing springs and oil. This will help to ensure safe and consistent operation.

For routine maintenance, the chart below provides suggested service intervals for common procedures:

| | <u>Each Ride</u> | <u>10 hours</u> | <u>20 hours</u> | <u>As Needed</u> |
|-----------------------------------|-------------------------|------------------------|------------------------|-------------------------|
| <u>Bleed excess air</u> | X | | | |
| <u>Change Oil</u> | | X | | |
| <u>Change Seal/Striper</u> | | | X | |
| <u>Change Bushings</u> | | | | X |

Fork Air Bleeding

Tools required

- 3mm hex key (Allen wrench)

During normal operation, both fork legs will build up air pressure. This pressure acts as an additional spring so it must be bled on a regular basis to maintain consistent suspension operation. Before each ride, loosen the socket head cap screw located at the front of each fork cap far enough so that any excess pressure in the leg is relieved. After excess air is bled off, retighten the screw to 5 in-lb. Be careful not to lose or damage the sealing ring that is located under the head of each bleed screw.

Fork Oil Replacement

Tools required

- 37mm Fork Cap Tool (MCMUTL37)
- 22mm closed-end wrench or socket
- 14mm open-end wrench
- Drift punch (12mm OD x 300mm long (1/2" x 12"))
- 5 & 6 mm hex key (Allen wrench)
- Mallet
- 5 wt. Spectro fork oil



Disassembly procedure

1. Remove the front wheel.
 - a. Loosen the brake-side axle pinch bolts (5mm hex key)
 - b. Carefully remove the brake side axle cap using a closed-end wrench to protect the cap from damage. (22mm wrench)
 - c. Loosen the non-brake side axle pinch bolts (5mm hex key)

- d. Using the drift punch (a long 3/8 socket extension will also work), remove the axle from the fork lugs by placing the punch inside the hollow axle and tapping lightly on the exposed end with the mallet.
 - e. Carefully slide with wheel downward out of the brake caliper.
2. Remove the brake caliper from the fork leg (6mm hex key).
3. Loosen the fork caps (Cobra 37mm Fork Cap Tool).
4. Remove the fork legs from the triple clamps (5mm hex key).
5. One leg at a time:
 - a. Remove the fork cap from the fork tube.
 - b. Lower the fork tube to expose the fork spring.
 - c. Pull the fork spring down from the fork cap to expose the damper rod lock nut. Secure this nut using a 14mm wrench.
 - d. With the 14mm wrench on the damper rod nut, use the 37mm fork cap wrench to free the fork cap from the damper rod.
 - e. Remove the 14mm wrench and allow the damper rod to fall into the cartridge tube.
 - f. Remove the fork spring.
 - g. Invert the fork to allow the oil to drain. Pump the damper rod assembly several times to help any excess oil trapped in the cartridge to drain.

Assembly procedure

1. Completely collapse the outer fork tube onto the stanchion tube.
2. Pump the damper rod up and down slowly to help the assembly fill with oil.
3. Install the fork spring.
4. Use a flexible retrieving tool to pull the damper rod up through the fork spring and thread the damper rod into the fork cap.

CAUTION:

Ensure that the fork cap is completely threaded onto the damper rod before it makes contact with the lock nut.

5. Pull the fork spring down from the cap and torque the damper rod lock nut to 15 N-m (11ft-lb) with a 14mm wrench.

CAUTION:

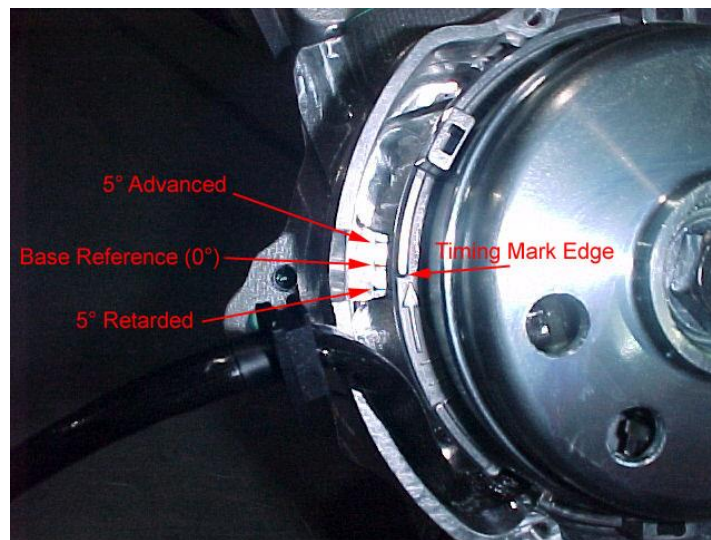
The damper rod is hollow and will break if the nut is over tightened.

6. Ensure that the fork cap O-ring is in good condition, Use the 37mm fork cap wrench to secure the fork cap to the fork outer tube. Torque the fork cap to 20 Nm (15 ft-lb).
7. Pump the fork leg several times to verify that it operates smoothly.
8. Install each leg back into the triple clamp. Torque each pinch bolt to 11N-m (8 ft-lb) making sure both legs are set to the same height in the clamps.
9. Reinstall the brake caliper.
10. Reinstall the front wheel.
 1. Install axle through non-brake side fork lug and wheel hub

2. Slide wheel spacer over axle taking care to ensure that the internal O-ring is in place.
3. Continue sliding axle through brake-side lug and reinstall axle cap (6 ft-lb, 8 Nm)
4. Lightly torque all four axle pinch bolts
5. Drop the bike onto the ground, engage the front brake, and push up and down on the handlebars several times to ensure that the front forks and the front wheel are properly aligned with each other.
6. Apply final torque to all four axle pinch bolts (7.4 ft-lb, 10 Nm)

Ignition Timing

The ignition timing value for the CX65 is 0° retarded from the standard base reference (0°). This can be verified by removing the ignition cover and looking as shown in the figure below.



The center mark on the cases is the standard base reference timing mark (0°), and the other two large marks are 5° advanced and retarded. The small timing marks between 0 & 5° is 2.5°.

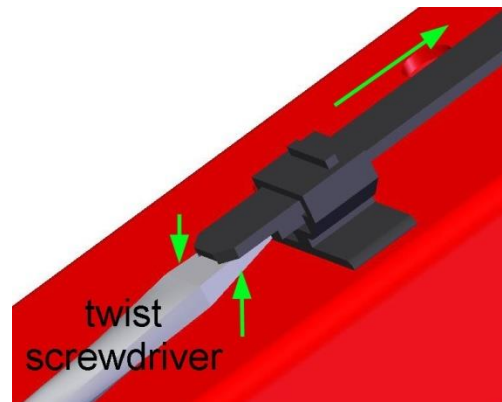
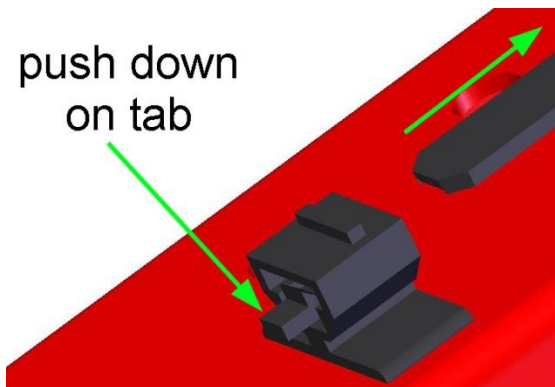
To change the timing, one must remove the flywheel with Cobra 65 flywheel puller # MCMUTL05. After the flywheel has been removed, the timing can be adjusted by loosening the stator bolts and rotating the stator to the desired position.

Cable Ties

There is one location where we have used reusable frame mount cable ties this year on the CX65.

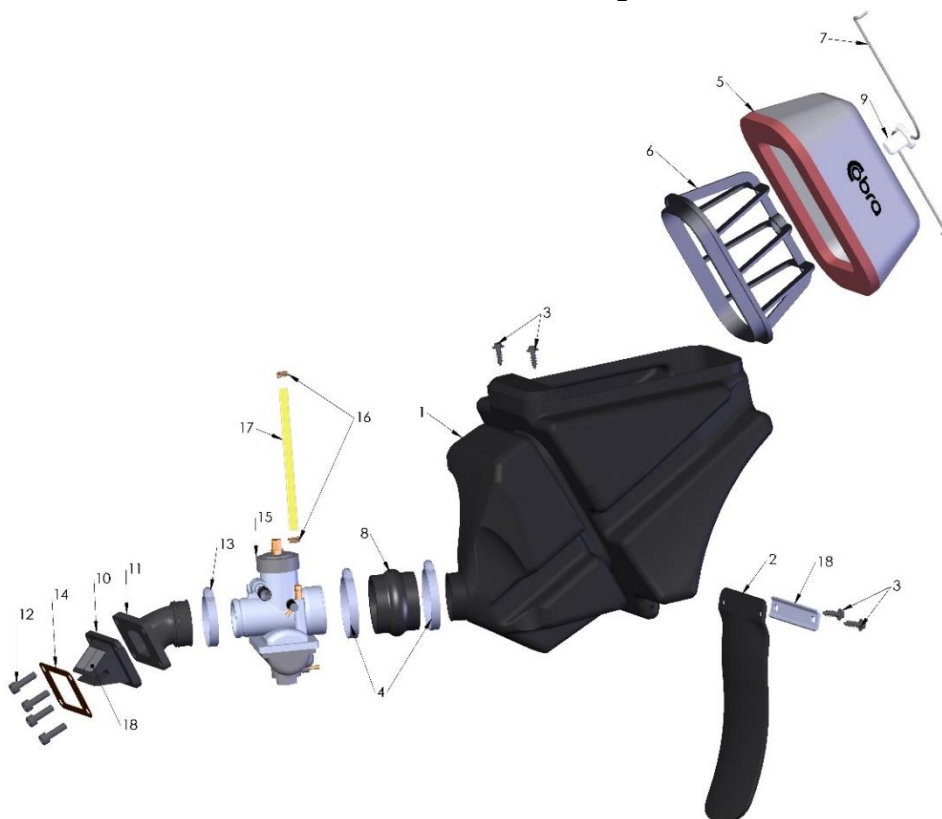


To disconnect these cable ties, use a screw driver as shown and push down on the short tab. The tab will be hidden from view by the cable tie strap.



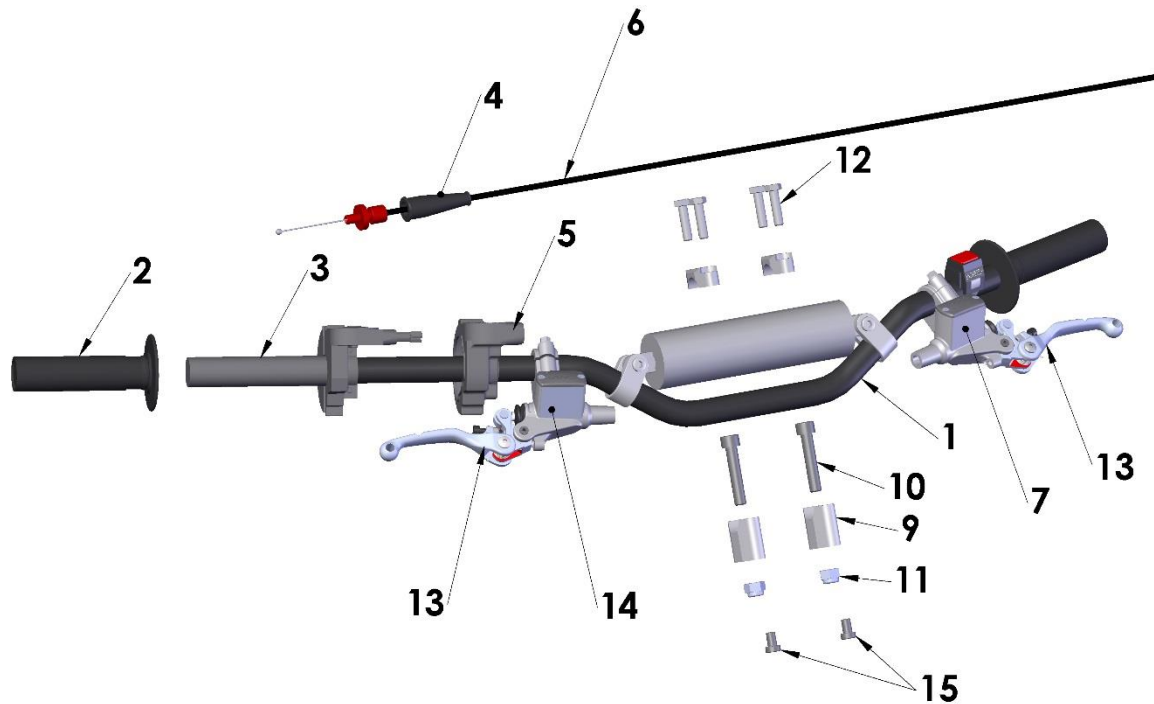
Parts

Parts – Air Box & Inlet System



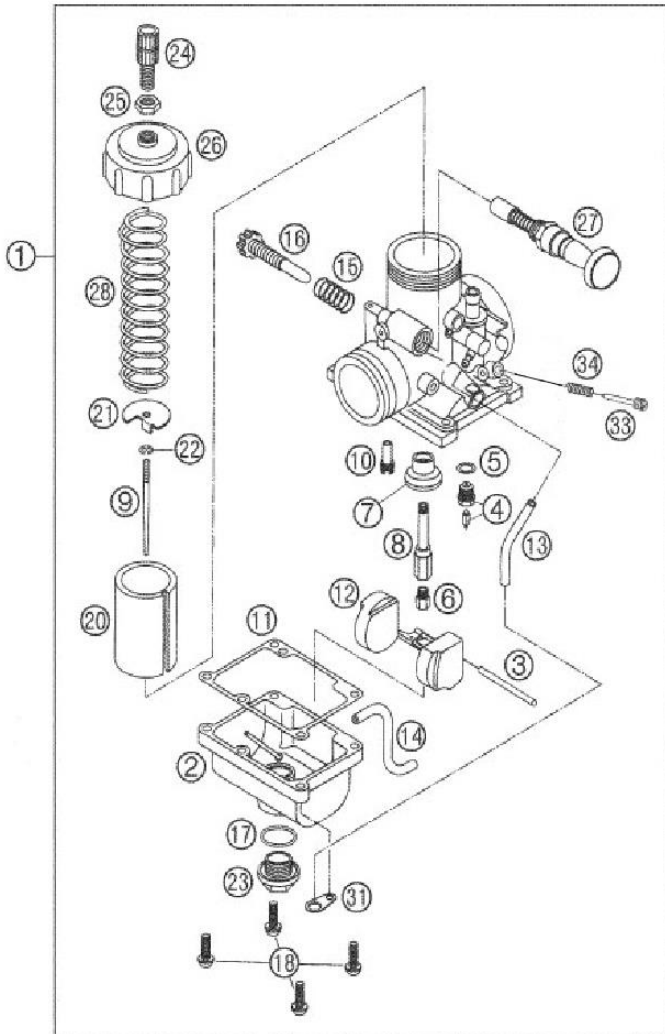
| Air Box & Inlet | | |
|-----------------|----------|-------------------------------|
| REF # | PART # | DESCRIPTION |
| 1 | RCC60007 | AIRBOX |
| 2 | TCC60008 | MUD FLAP |
| | TCC60125 | BRACKET - MUDFLAP |
| 3 | HCSP0004 | SCREW – PLASCREW |
| 4 | MCKGHO03 | CLAMP, AIR BOOT TO AIR BOX |
| 5 | RCC60002 | AIR FILTER |
| 6 | RCC60003 | AIR FILTER CAGE |
| 7 | RCC60004 | AIR FILTER WIRE |
| 8 | RCC60014 | AIR BOOT, CARB TO AIRBOX |
| 9 | RCC60006 | AIR FILTER CAP |
| 10 | ECC60006 | REED ASSEMBLY |
| 11 | ECC60007 | INLET MANIFOLD |
| 12 | HCBC0625 | M6x25mm SOCKET HEAD CAP SCREW |
| | HCWF0601 | M6 FLAT WASHER |
| 13 | MCC60003 | CLAMP, MANIFOLD TO CARB |
| 14 | ZCC60021 | GASKET REED |
| 15 | RCR60026 | CARBURETOR 26mm MIKUNI |
| 16 | MCMUCL04 | HOSE CLAMP 8mm |
| 17 | FCMU0026 | FUEL LINE |
| 18 | TCC60125 | MUD FLAP BRACKET |
| 18 | ECC60014 | REED PETALS – REPLACEMENT |

Parts – Bars and Controls



| Bars and Controls | | |
|-------------------|----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | FAC60023 | HANDLEBARS – PROTAPER CX65 |
| 2 | TCC60035 | GRIPS – PROTAPER (SET OF TWO) |
| 3 | FCMU0066 | THROTTLE ASSEMBLY |
| | FCMU0042 | TUBE – THROTTLE |
| 4 | FCPW0004 | CABLE COVER |
| 5 | FCMU0021 | THROTTLE COVER |
| 6 | RAC60001 | THROTTLE CABLE |
| 7 | CCC60022 | MASTER CYLINDER ASSEMBLY – MAGURA – W LEVER |
| 8 | FCMU0033 | KILL SWITCH ASSEMBLY |
| 9 | TKMU0404 | BAR MOUNT KIT, SHORT (1 REQ'D) STANDARD |
| 9A | TKMU0403 | BAR MOUNT KIT, TALL (1 REQ'D) |
| 10 | HCBC1035 | M10X35mm SOCKET HEAD CAP SCREW (2 REQ'D) |
| 11 | HCNL1001 | M10 LOCK NUT |
| 12 | HCBC0806 | M8 X 30 SOCKET HEAD CAP SCREW (4 REQ'D) |
| 13A | CCC60034 | LEVER – CLUTCH – MAGURA |
| 13B | CKC60004 | LEVER ASSY – BRAKE - CARD |
| 14 | BAC60010 | MASTER CYLINDER ASSEMBLY - BRAKE - WITH LEVER |
| 15 | HCBC0812 | M8 X 12 SHCS - LOW PROFILE (2 REQ'D) |
| | MCMU0001 | PAD – CROSS BAR |
| ACCESSORY | BKC60015 | REBUILD KIT – MASTER CYLINDER - BRAKE - ZL |
| ACCESSORY | CCC60038 | REBUILD KIT – CLUTCH MASTER CYLINDER - MAGURA |

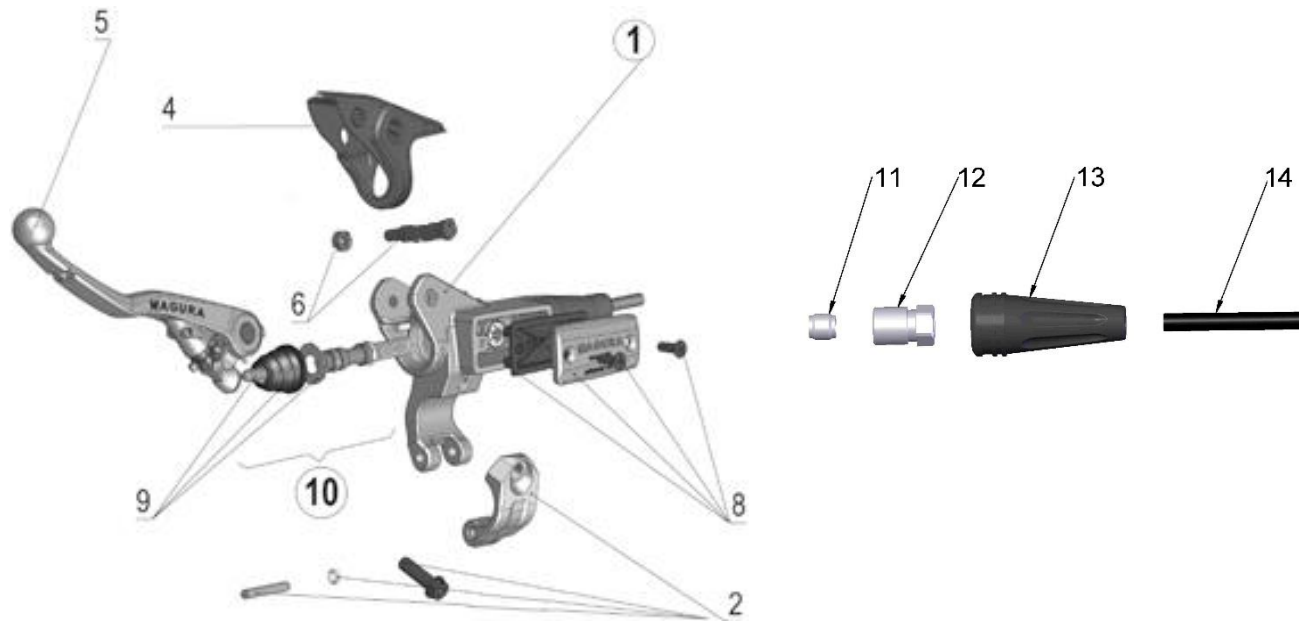
Parts - Carburetor



| Carburetor | | |
|------------|-----------|-----------------------------|
| REF. # | PART # | DESCRIPTION |
| 1 | RCR60026 | CARBURETOR 26MM MIKUNI |
| 2 | RCC60017 | FLOAT BOWL CHAMBER |
| 4 | RCMU0271 | NEEDLE VALVE & SEAT ASSY |
| 6 | SEE BELOW | MAIN JET |
| 9 | RCEX0026 | NEEDLE JET STOCK 5L14 |
| 10 | SEE BELOW | PILOT JET |
| 11 | RCC60013 | GASKET, FLOAT BOWL |
| 15 | RCEX0016 | SPRING IDLE ADJUST SCREW |
| 16 | RCEX0015 | IDLE ADJUST SCREW |
| 17 | ZCDCOR01 | O'RING BOWL PLUG |
| 18 | RCEX0012 | FLOAT BOWL SCREW |
| 20 | RCC60025 | SLIDE |
| 21 | RCC60016 | SLIDE STUFFER |
| 22 | RCMU0277 | CLIP – NEEDLE |
| 24 | RCEX0005 | ADJUSTER |
| 25 | RCEX0006 | LOCK NUT |
| 27 | RCC60026 | CHOKE ASSY |
| 33 | RCEX0013 | AIR ADJUSTING SCREW |
| 34 | RCEX0014 | SPRING – AIR ADJUST SCREW |
| NOT SHOWN | RCMU0415 | CABLE ADJUSTER CAP (RUBBER) |
| | RCC60021 | AIR SCREW O-RING |
| | RCC60020 | AIR SCREW WASHER |

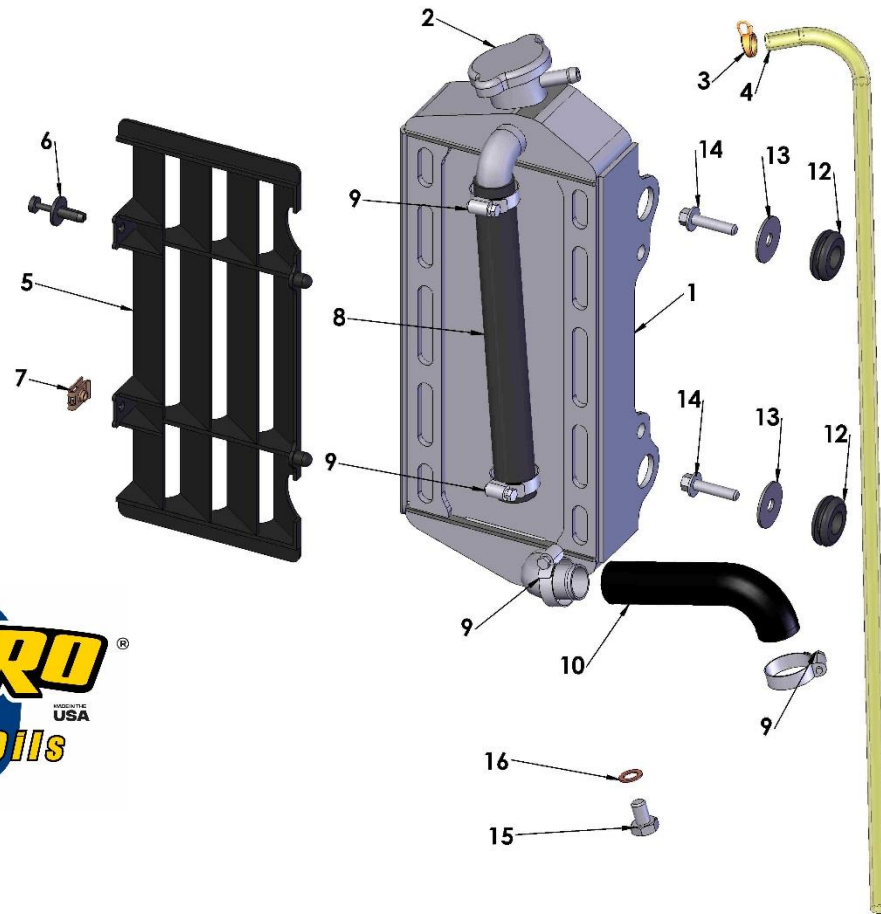
| PILOT JET | | MAIN JET | |
|-----------|----------|----------|----------|
| 30 | RCEX0030 | 190 | RCMU0190 |
| 32.5 | RCEX0032 | 195 | RCMU0195 |
| 35 | RCEX0035 | 200 | RCMU0200 |
| 37.5 | RCEX0037 | 205 | RCMU0205 |
| 40 | RCEX0040 | 210 | RCMU0210 |
| 42.5 | RCEX0042 | 215 | RCMU0215 |
| 45 | RCEX0045 | 220 | RCMU0220 |
| 47.5 | RCEX0047 | 230 | RCMU0230 |
| 50 | RCEX0050 | 240 | RCMU0240 |
| 52.5 | RCEX0052 | 250 | RCMU1250 |
| 55 | RCEX0055 | 260 | RCMU1260 |
| 57.5 | RCEX0057 | 270 | RCMU1270 |
| 60 | RCEX0060 | 280 | RCMU1280 |
| | | 290 | RCMU1290 |
| | | 300 | RCMU1300 |
| | | 310 | RCMU1310 |

Parts – Clutch – Master Cylinder



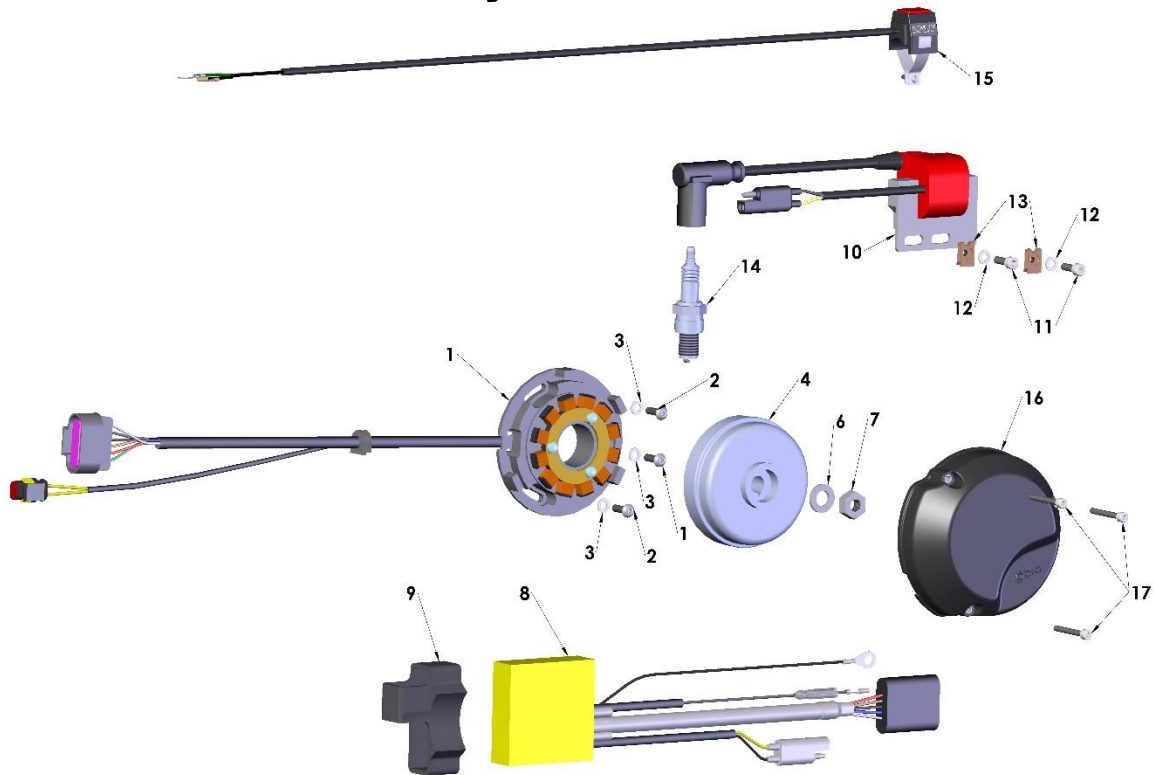
| Clutch – Master Cylinder | | |
|--------------------------|----------|--|
| REF# | PART # | DESCRIPTION |
| 1 | CCC60022 | MASTER CYLINDER – CLUTCH – MAGURA |
| 2 | CCC60033 | CLAMP W/PIN – CLUTCH MASTER CYLINDER |
| 4 | CCC60039 | COVER – CLUTCH LEVER PIVOT - MAGURA |
| 5 | CCC60034 | LEVER – MAGURA CLUTCH |
| 6 | CCC60035 | SCREW & NUT – CLUTCH LEVER – MAGURA |
| 8 | CCC60037 | COVER – CLUTCH RESERVOIR – MAGURA MINERAL OIL |
| 9 | CCC60036 | PUSH ROD & BELLOWS - CLUTCH LEVER - MAGURA |
| 10 | CCC60038 | REBUILD KIT – CLUTCH MASTER CYLINDER 9.5 |
| 11 | BCMU0017 | FERRULE – COMPRESSION FITTING |
| 12 | BCMU0020 | FITTING – THREADED CLUTCH LINE END |
| 13 | BCMU0021 | COVER – FOR SLEEVE NUT |
| 14 | CCC60041 | LINE – CLUTCH - REPLACEMENT KIT – FORGED COVER |
| | | (LINE & 2 FERRULES) |

Parts – Coolant System



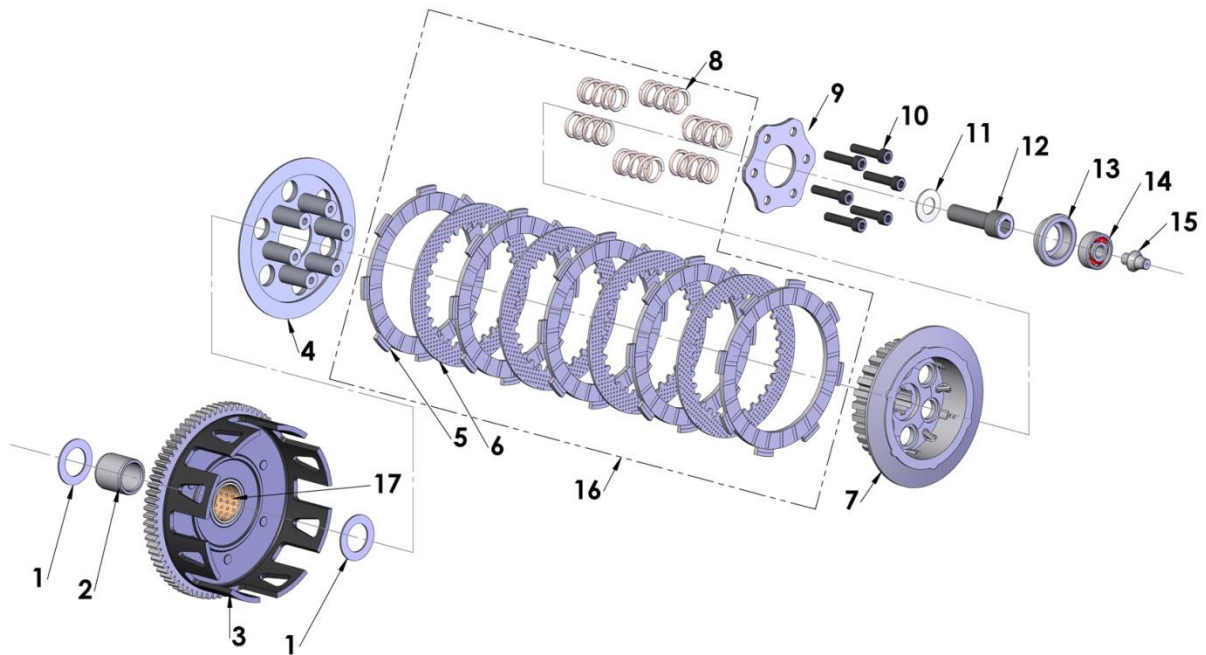
| Coolant System | | |
|----------------|----------|--|
| REF # | PART # | DESCRIPTION |
| 1 | FCC60060 | RADIATOR W/CAP - CX65 |
| 2 | FCMU0052 | CAP – 1.3 BAR |
| 3 | MCMUCL05 | HOSE CLAMP 11-20 UNIVERSAL |
| 4 | FCKG0214 | HOSE – OVERFLOW |
| 5 | FCDC0009 | RADIATOR LOUVER-CX65 |
| 6 | HCPP0001 | PUSH PIN – REMOVABLE |
| 7 | HCCN0000 | 5mm EXTRUDED "U" NUT |
| 8 | ECC60034 | HOSE RADIATOR UPPER |
| 9 | MCMUCL07 | CLAMP – HOSE - RADIATOR MEDIUM (4 REQ'D) |
| 10 | ECC60192 | HOSE – RADIATOR BOTTOM |
| 12 | MCMUGR03 | GROMMET RADIATOR (2 REQ'D) |
| 13 | HCWF1478 | 6mm WASHER 22mm OD BLK ZINC (2 REQ'D) |
| 14 | HCBF0620 | M6X20mm FLANGED HEX - 8mm HEAD (2 REQ'D) |
| 15 | HCBH0805 | M8 X 12mm HEX HEAD BOLT |
| 16 | HCWC0000 | WASHER – COPPER |
| ACCESSORY | ECR60020 | HOSE SET SILICONE - RED |
| ACCESSORY | ECR60021 | HOSE SET SILICONE - BLUE |
| TOOL | MCMUTL16 | TOOL – RAD CAP REMOVAL |

Parts – Electrical System



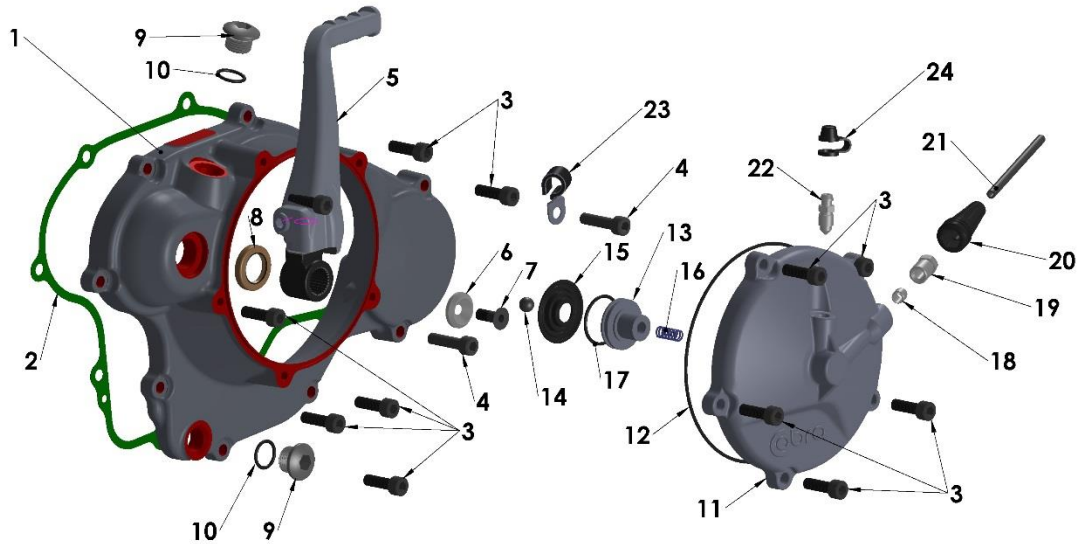
| Electrical System | | |
|-------------------|-----------|--|
| REF # | PART # | DESCRIPTION |
| 1 | ICC60014 | STATOR – POWER VALVE CX65 |
| 2 | HCBT0516 | M5X16mm TORX HEAD SCREW (3 REQ'D) |
| 3 | HCWF0501 | 5mm FLAT WASHER (3 REQ'D) |
| 4 | ICC60007 | ROTOR OUTER STYLE CX65 |
| 5 | ICMU0012 | WOODRUFF KEY (NOT SHOWN) |
| 6 | HCWF0010 | 10mm FLAT WASHER |
| 7 | HCNS1001 | M10 NUT |
| 8 | ICC60017 | CDI UNIT – POWER VALVE CX65 |
| 9 | ICMU0035 | MOUNT – CDI |
| 10 | ICC60005 | COIL DIGITAL 65 |
| 11 | HCBC0516 | M5X16mm SOCKET HEAD CAP SCREW – COIL MOUNTING (2 REQ'D) |
| 12 | HCWF0501 | 5mm WASHER – COIL MOUNTING (2 REQ'D) |
| 13 | HCCN0000 | 5mm EXTRUDED “U” NUT – COIL MOUNTING (2 REQ'D) |
| 14 | ECMU0033I | SPARK PLUG |
| 15 | FCMU0033 | KILL SWITCH ASSEMBLY |
| 16 | ECC60166 | COVER – IGNITION |
| 17 | HCBC0402 | M4X35mm SOCKET HEAD CAP SCREW – COVER MOUNTING (3 REQ'D) |
| NOT SHOWN | FCMU0030 | COVER – KILL SWITCH SCREW |
| ACCESSORY | ICMU0016 | SPARK PLUG CAP 5K Ω |
| ACCESSORY | MCKGGR00 | GROMMET WIRE PROTECTION (2 PLACES) |
| TOOLS | MCMUTL05 | PULLER – FLYWHEEL |
| TOOLS | MCMUTL19 | HARNESS – DIAGNOSTIC BREAKOUT |

Parts – Engine Clutch



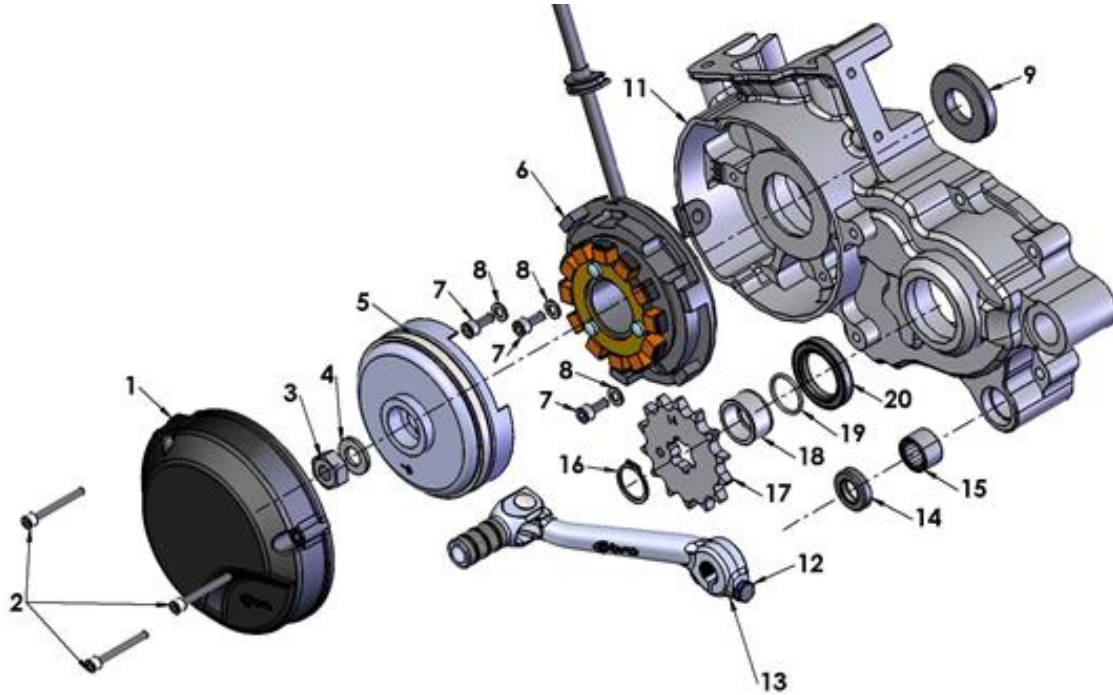
| Clutch Components | | |
|-------------------|----------|---|
| REF. # | PART # | DESCRIPTION |
| 1 | ECDC0063 | CLUTCH WASHER (2 REQ'D) |
| 2 | ECDC0064 | CLUTCH BUSHING – INNER / STEEL |
| 3 | EAEX0003 | CLUTCH BASKET ASSEMBLY (INCLUDES ECDC0167) |
| 4 | ECDC0066 | CLUTCH PRESSURE PLATE |
| 5 | ECDC0068 | CLUTCH DISC-FRICTION – (5 REQ'D) |
| 6 | ECDC0067 | CLUTCH DISC-STEEL – (4 REQ'D) |
| 7 | ECDC0069 | CLUTCH HUB |
| 8 | ECDC0070 | SPRING, CLUTCH – (6 REQ'D) |
| 9 | ECDC0071 | PLATE, CLUTCH SPRING |
| 10 | HCBC0525 | M5X25mm SOCKET HEAD CAP SCREW (6 REQ'D) |
| 11 | ECDC0030 | SPRING WASHER – CLUTCH |
| 12 | HCBF1030 | M10X30mm FLANGE HEAD BOLT |
| 13 | ECDC0019 | CLUTCH BEARING SEAT |
| 14 | ECDC0018 | BEARING, CLUTCH THROW OUT |
| 15 | ECC60190 | PUSH ROD – CLUTCH 2015 |
| 16 | CKMU0001 | CLUTCH KIT INCLUDING – SPRINGS, STEELS AND FIBERS |
| 17 | ECDC0167 | CLUTCH BUSHING – OUTER / BRONZE (REPLACEMENT) |
| ACCESSORY | CKC60002 | CLUTCH BASKET REPLACEMENT KIT |

Parts – Engine – Clutch / Kick Cover



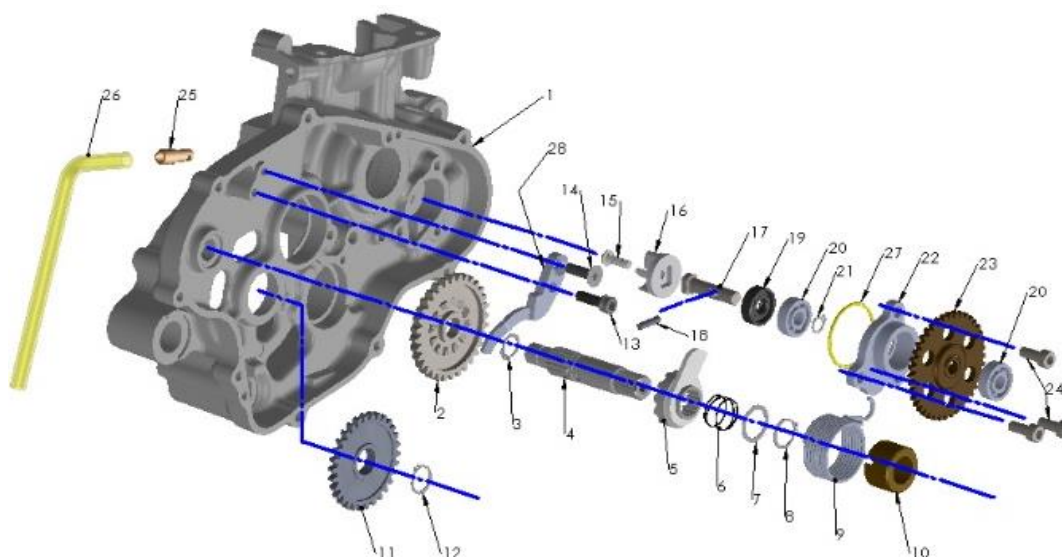
| Clutch / Kick Cover Components | | |
|--------------------------------|----------|--|
| REF. # | PART # | DESCRIPTION |
| 1 | ECC60178 | COVER – CLUTCH |
| 2 | ZCC60016 | GASKET – CLUTCHCOVER |
| 3 | HCBC0602 | M6X20mm SOCKET HEAD CAP SCREW (12 TOTAL REQ'D) (7 REQ'D FOR CLUTCH COVER, 5 REQ'D FOR CLUTCH CAP) |
| 4 | HCBC0625 | M6X25mm SOCKET HEAD CAP SCREW (2 REQ'D) |
| 5 | EAMU0011 | LEVER ASSEMBLY – KICKSTARTER |
| 6 | ECMU0250 | WASHER – KICK LEVER |
| 7 | HCFH0616 | M6X16mm FLAT HEAD CAP SCREW |
| 8 | ECDC0078 | SEAL – KICKSTARTER |
| 9 | ECMU0168 | OIL FILL PLUG, ALUMINUM |
| 10 | ZCMUB014 | O-RING – OIL FILL PLUG |
| 11 | ECC60179 | CAP – CLUTCH - W/SLAVE CYLINDER |
| 12 | ZCC60013 | O-RING – CLUTCH CAP |
| 13 | CCC60005 | PISTON – CLUTCH SLAVE CYLINDER |
| 14 | CCEX0009 | BALL – CLUTCH ENGAGEMENT |
| 15 | CCC60007 | BELLOWS – CLUTCH SLAVE |
| 16 | CCC60006 | SPRING – SLAVE RETURN |
| 17 | ZCMUOR35 | O-RING – SLAVE PISTON – MINERAL OIL |
| 18 | BCMU0017 | FERRULE – COMPRESSION FITTING |
| 19 | BCMU0020 | FITTING – THREADED CLUTCH LINE END |
| 20 | BCMU0021 | COVER – RUBBER CLUTCH LINE END |
| 21 | CCC60040 | LINE – CLUTCH REPLACEMENT |
| 22 | BCMU0018 | FITTING – BLEED, CLUTCH LINE |
| 23 | CCC60030 | CLAMP – CLUTCH LINE |
| 24 | BCC60034 | CAP - BLEED SCREW |
| ACCESSORY | EKMU0002 | PIVOT SPRING, BALL AND SET SCREW KIT – KICK STARTER |

Parts – Engine – Ignition Side



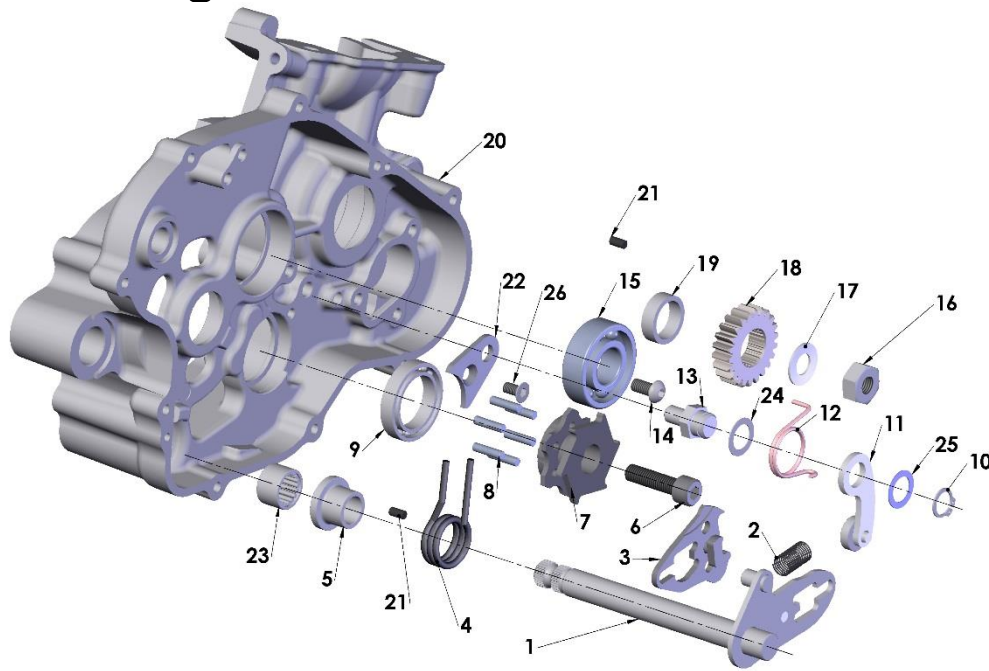
| Ignition Side Engine Components | | |
|---------------------------------|----------|---|
| REF. # | PART # | DESCRIPTION |
| 1 | ECC60166 | IGNITION COVER |
| 2 | HCBC0402 | M4X35mm SOCKET HEAD CAP SCREW (3 REQ'D) |
| 3 | HCNS1001 | M10 NUT |
| 4 | HCWF0010 | 10mm FLAT WASHER |
| 5 | ICC60007 | ROTOR PVL OUTER STYLE |
| 6 | ICC60014 | STATOR PVL DIGITAL – POWER VALVE CX65 |
| 7 | HCBT0516 | M5X16mm BUTTON HEAD TORX (3 REQ'D) |
| 8 | HCWF0501 | 5mm WASHER FLAT (3 REQ'D) |
| 9 | ECDC0024 | SEAL, CRANKSHAFT |
| 11 | EKC62015 | ENGINE CASE SET W/B&S CX65 – 2015 AND NEWER |
| 12 | HCBH0602 | M6X25mm HEX HEAD BOLT |
| 13 | ECR60015 | SHIFTER LEVER – ALUMINUM |
| 14 | ECDC0026 | SEAL, SHIFTER |
| 15 | ECMU0020 | BEARING, SHIFTER SHAFT |
| 16 | ECKGSR03 | SNAP RING – OUTPUT - COBRA |
| 17 | PCKG00xx | xx DENOTES TEETH – RANGE OF TEETH (13-16) |
| 18 | ECDC0009 | SPACER, SPROCKET |
| 19 | ZCMUOR21 | O-RING, SPROCKET SPACER |
| 20 | ECDC0025 | SEAL, OUTPUT |

Parts – Engine – Kick Mechanism & Water Pump



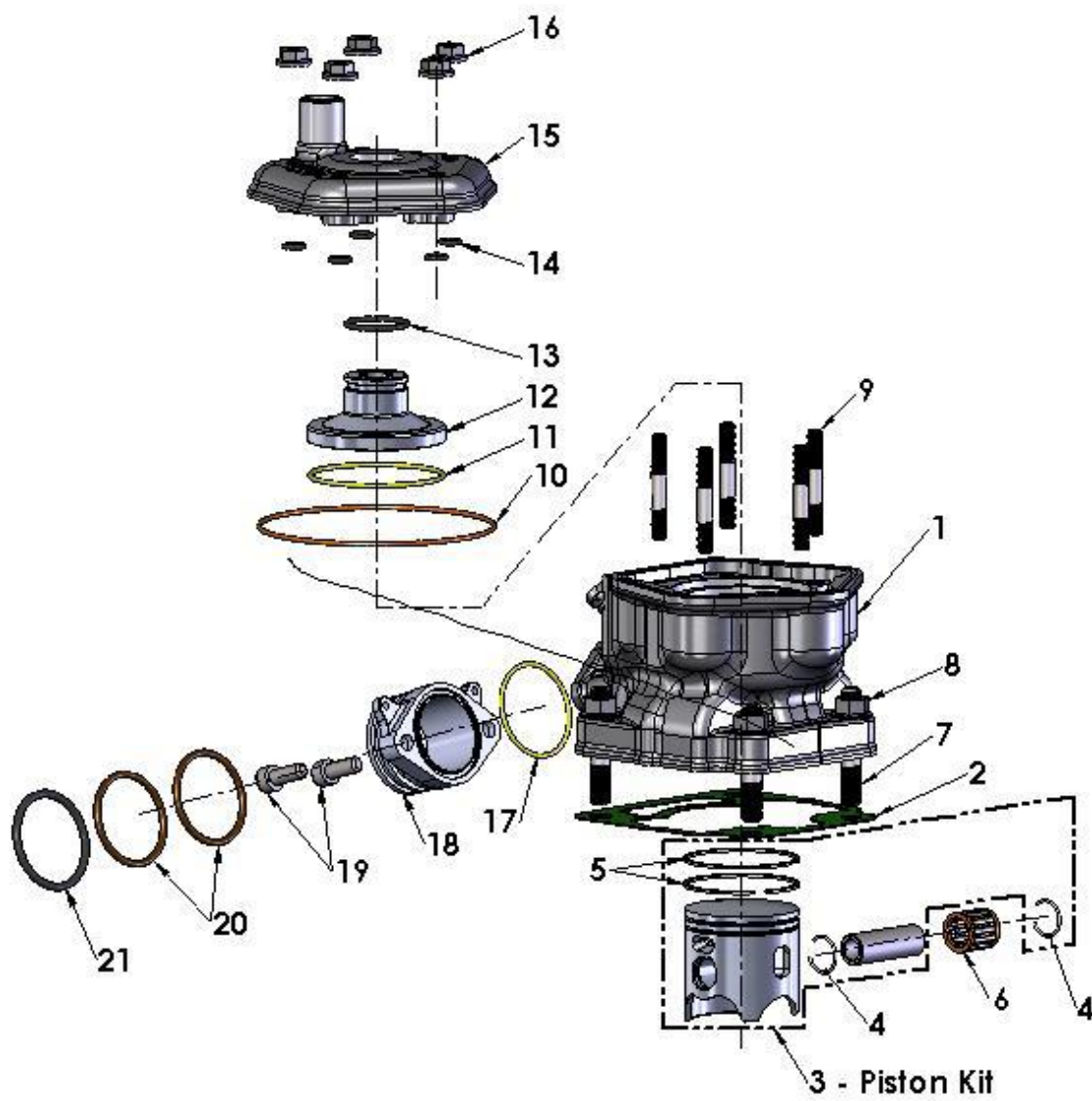
| Kick Mechanism | | |
|----------------|----------|---|
| REF. # | PART # | DESCRIPTION |
| 1 | EKC62015 | CRANKCASE – SET WITH BEARINGS & SEALS |
| 2 | ECDC0033 | GEAR, KICKSTART |
| 3 | ECDC0035 | SNAP RING, EXTERNAL 12mm |
| 4 | ECC60203 | SHAFT, KICK STARTER – THREADED |
| 5 | ECC60201 | GEAR – KICK RAMP - NO ARM |
| 6 | ECDC0042 | SPRING, KICKSTART RAMP |
| 7 | ECDC0043 | WASHER, KICKSTART BACKUP |
| 8 | ECDC0036 | SNAP RING, EXTERNAL 16mm - SPRING RET. |
| 9 | ECC60067 | SPRING – KICK RETURN CX65 |
| 10 | ECC60202 | SPACER – KICK SPRING CENTERING - 2015 |
| 11 | ECDC0032 | GEAR, KICK START IDLE |
| 12 | ECDC0037 | SNAP RING, EXTERNAL 15mm |
| 13 | ECMU0174 | HOLDER – SPRING 20MM |
| 14 | HCFH0616 | M6 X 16 FLAT HEAD SCREW |
| 15 | HCBB0403 | M4 X 8 BUTTON HEAD |
| 16 | ECKG0073 | IMPELLER – WATERPUMP |
| 17 | ECC60173 | SHAFT – WATERPUMP |
| 18 | ECDC0051 | PIN – DOWEL |
| 19 | ECC60175 | SEAL – WATERPUMP |
| 20 | ECC60174 | BEARING – WATERPUMP |
| 21 | ECC60176 | SNAP RING – 8MM SHAFT |
| 22 | ECC60177 | HOUSING – WATERPUMP |
| 23 | ECC60172 | GEAR – WATERPMP DRIVE |
| 24 | HCBC0601 | M6 X 16 SOCKET HEAD CAP SCREW (3 REQ'D) |
| 25 | ECMU0233 | FITTING, VENT HOSE |
| 26 | ECMU0534 | VENT HOSE |
| 27 | ZCMUOR07 | O'RING – WATER PUMP |
| 28 | ECC60200 | RAMP W STOP - KICK MECHANISM |

Parts – Engine – Shift Mechanism



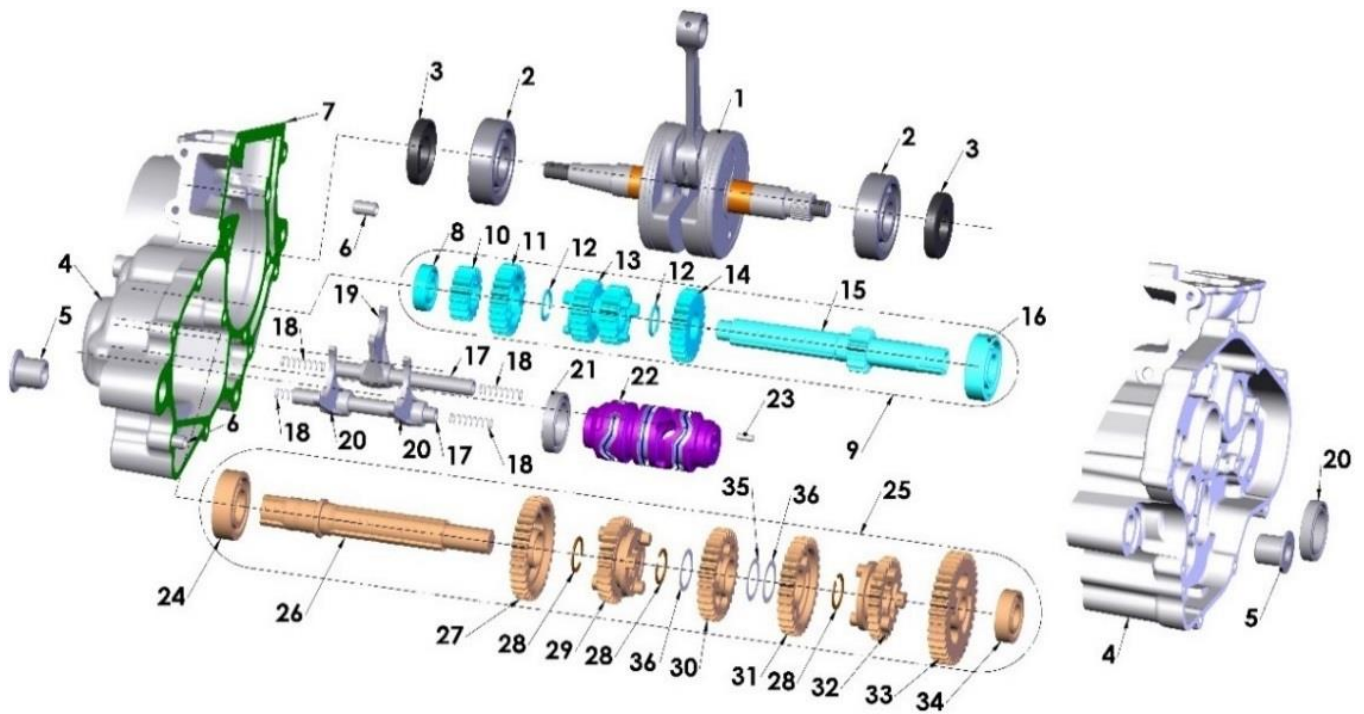
| Shifting Components | | |
|---------------------|----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | EAC60017 | SHAFT – SHIFTER W/ PIVOT PLATE |
| 2 | ECDC0055 | SPRING – SHIFTER PLATES |
| 3 | EAC60018 | PLATE – SHIFT SLIDING |
| 4 | ECC60124 | SPRING – SHIFTER SHAFT CENTERING |
| 5 | ECC60146 | BUSHING – SPRING CENTERING |
| 6 | HCBC0806 | M8X30mm SOCKET HEAD CAP SCREW (BLACK OXIDE) |
| 7 | ECC60189 | CASSETTE – SHIFT (W/O PINS) |
| 8 | ECDC0051 | DOWEL – SHIFT CASSETTE (6 & 1 REQ'D) |
| 9 | ECDC0022 | BEARING – SHIFT DRUM |
| 10 | ECDC0035 | CLIP – ARM RETAINER |
| 11 | ECMU0545 | ARM ASSY – SHIFT FOLLOWER |
| 12 | ECMU0546 | SPRING – SHIFT FOLLOWER ARM |
| 13 | ECC60096 | PIVOT – SHIFT ARM |
| 14 | HCB1612 | M6X12mm BUTTON HEAD BLACK OXIDE |
| 15 | ECMU0016 | BEARING – PRIMARY SHAFT CLUTCH SIDE |
| 16 | HCNS1001 | NUT – M10 X 1.25 |
| 17 | ECDC0030 | BELLEVILLE – LOCK WASHER - 10MM |
| 18 | ECDC0073 | GEAR – CRANK DRIVE |
| 19 | ECC60198 | SPACER – CRANK DRIVE GEAR |
| 20 | EKC62015 | CRANKCASE – SET WITH BEARINGS & SEALS |
| 21 | ECDC0053 | DOWEL – CLUTCH COVER POSITION (2 REQ'D) |
| 22 | ECC60095 | PLATE – BEARING RETAINER |
| 23 | ECMU0020 | BEARING – SHIFTER SHAFT |
| 24 | ECC60119 | SHIM WASHER |
| | | (NOTE MEASURE SHIM TO ORDER CORRECT SIZE) |
| 25 | ECC60152 | SHIM 0.2mm THICK |
| 25 | ECC60153 | SHIM 0.3mm THICK |
| 26 | HCFH0512 | M5 X 12mm FLAT HEAD SCREW |
| NOT SHOWN | ECC60028 | COLLAR – SWINGARM PIVOT |

Parts – Engine – Top End



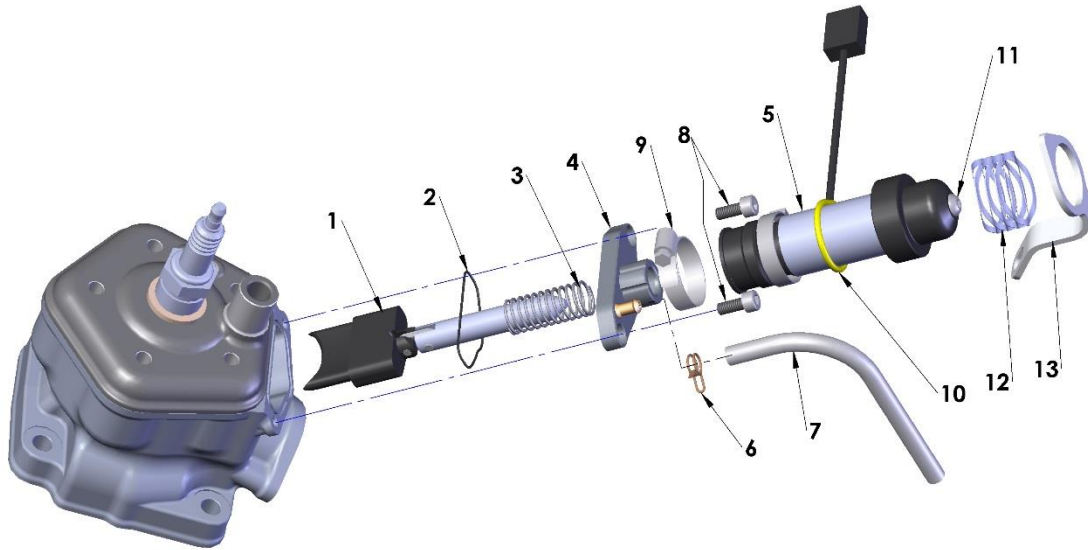
| Engine – Top End | | |
|------------------|------------|---|
| REF # | PART # | DESCRIPTION |
| 1 | ECC60457 | CYLINDER KIT PV CX65 (INCLUDES PISTON KIT & CYLINDER) |
| 2 | ZCC60302 | BASE GASKET 0.2mm THICK |
| 2 | ZCC60303 | BASE GASKET 0.3mm THICK |
| 2 | ZCC60304 | BASE GASKET 0.4mm THICK |
| 2 | ZCC60305 | BASE GASKET 0.5mm THICK |
| 2 | ZCC60306 | BASE GASKET 0.6mm THICK |
| 2 | ZCC60307 | BASE GASKET 0.7mm THICK |
| 2 | ZCC60308 | BASE GASKET 0.8mm THICK |
| 3 | ECC60208x | PISTON KIT (x DENOTES PISTON SIZE A,B, or C) |
| | ECC60208WP | WRIST PIN – PISTON – 44.5MM CAST |
| 4 | ECC60222 | SNAP RING FOR PISTON (2 REQ'D) |
| 5 | ECC60221 | PISTON RINGS 44.5mm (2 PER SET) |
| 6 | ECC60061 | BEARING, WRIST PIN |
| 7 | ECC60109 | STUD, CYLINDER 8mm (4 REQ'D) |
| 8 | HCNF0801 | M8 FLANGE NUT (4 REQ'D) |
| 9 | ECC60107 | STUD, CYLINDER 6mm (5 REQ'D) |
| 10 | ZCC60009 | O-RING – GASKET LARGE PV HEAD OUTER |
| 11 | ZCMUOR05 | O-RING CYLINDER HEAD MEDIUM - YELLOW |
| 12 | ECC60207 | CYLINDER HEAD INSERT |
| 13 | ZCMUOR23 | O-RING CYLINDER HEAD SMALL |
| 14 | ZCMUOR03 | O-RING CYLINDER STUD - YELLOW (5 REQ'D) |
| 15 | ECC60149 | CYLINDER HEAD OUTER |
| 16 | HCNF0601 | M6 FLANGE NUT (5 REQ'D) |
| 17 | ZCMUOR07 | O-RING, EXHAUST FLANGE TO CYLINDER |
| 18 | ECMU0262 | FLANGE – EXHAUST |
| 19 | HCBC0601 | M6X16mm SOCKET HEAD CAP SCREW (2 REQ'D) |
| 20 | ZCMOTE11 | O-RINGS – PIPE TO FLANGE (2 REQ'D) |
| 21 | ZCMUOR11 | O-RING – PIPE to FLANGE (1 REQ'D) |
| NOT SHOWN | ZKMUOR13 | O-RING KIT – TOP END – CX65 PV |
| | EAC62017 | COMPLETE ENGINE |

Parts – Engine – Transmission



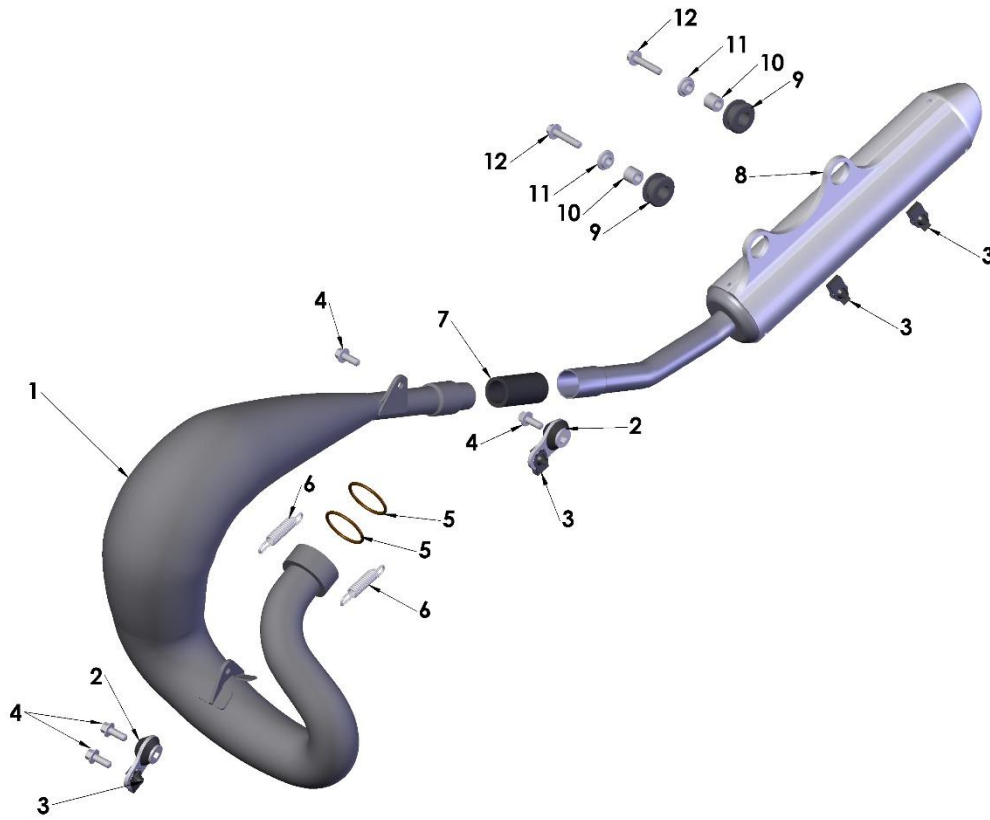
| Transmission | | |
|---------------------|-----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | ECC60219 | CRANKSHAFT CX65 |
| 2 | ECR60007 | BEARING – CRANKSHAFT – IGNITION SIDE |
| 3 | ECDC0024 | SEAL – CRANKSHAFT (2 REQ'D) |
| ACCESSORY | EKEX0001 | ROD KIT |
| 4 | EKC62015 | CASE SET – ENGINE W/B&S CX65 |
| 5 | ECC60028 | BUSHING - ENGINE / SWINGARM PIVOT CX65 |
| 6 | ECWX0025 | HOLLOW DOWEL - 8.4 x 14 x 7 |
| Case Screws - Short | HCBC0603 | M6X30mm SOCKET HEAD CAP SCREW (11 REQ'D) |
| Case Screws - Long | HCBC0604 | M6X35mm SHCS (2 REQ'D) - thru the 2 hollow dowels |
| 7 | ZCC60014 | GASKET – CENTER CASE |
| 8 | ECKG0031 | BEARING – PRIMARY SHAFT IGNITION SIDE |
| 9 | EAC60041 | PRIMARY SHAFT SUB-ASSY |
| 10 | ECC60306 | GEAR – 2 ND PRIMARY, 16T- INVOLUTE 3 DOG ROUND |
| 11 | ECDC0005 | GEAR – 5 TH PRIMARY, 23T-3 DOG ROUND |
| 12 | ECDC0003 | SNAP RING - EXTERNAL 17mm (2 REQ'D) |
| 13 | ECC60304 | GEAR – 3 RD / 4 TH PRIMARY, 18/21T-INVOLUTE 3 DOG ROUND |
| 14 | ECDC0002 | GEAR – 6 TH PRIMARY 24T – 3 DOG ROUND |
| 15 | ECC60301 | SHAFT – TRANSMISSION PRIMARY (1 ST GEAR), 13T - INVOLUTE |
| 16 | ECMU0016 | BEARING – PRIMARY SHAFT CLUTCH SIDE |
| 17 | ECC60070 | ROD – SHIFT FORK (2 REQ'D) |
| 18 | ECC60071 | SPRING - SHIFT ROD CENTERING (4 REQ'D) |
| 19 | ECDC0048 | FORK – INPUT - SHIFT |
| 20 | ECDC0049 | FORK – OUTPUT - SHIFT (2 REQ'D) |
| 21 | ECDC0022 | BEARING - SHIFT DRUM (2 REQ'D) |
| 22 | ECC60186 | DRUM – SHIFT |
| 23 | ECDC0051 | PIN – DOWEL - SHIFT DRUM TO CASSETTE |
| 24 | ECKGBR01 | BEARING - OUTPUT IGNITION SIDE |
| 25 | EAC60042 | OUTPUT SHAFT SUB-ASSY |
| 26 | ECDC0307 | SHAFT – TRANSMISSION OUTPUT – INVOLUTE 4 DOG SQUARE |
| 27 | ECC60114 | GEAR – 2 ND OUTPUT, 34T – 4 DOG SQUARE |
| 28 | ECDC0017 | SHAP RING - EXTERNAL 18mm (3 REQ'D) |
| 29 | ECC60323 | GEAR – 5 TH , OUTPUT, 28T – INVOLUTE 4LD |
| 30 | ECC60111 | GEAR – 4 TH OUTPUT, 30T – 4 DOG SQUARE |
| 31 | ECC60110 | GEAR – 3 RD OUTPUT, 31T – 4 DOG SQUARE |
| 32 | ECC60325 | GEAR – 6 TH OUTPUT, 26T – INVOLUTE 4LD |
| 33 | ECC60116 | GEAR – 1 ST OUTPUT, 37T – 4 DOG SQUARE |
| 34 | ECDC0021 | BEARING – OUTPUTSHAFT CLUTCH SIDE |
| 35 | ECC60160 | SHIM – TRANSMISSION .2mm THK |
| 36 | ECC60161 | SHIM – TRANSMISSION .5mm THK (2 REQ'D) |
| ACCESSORY | ECMU0040 | SHIM – TRANSMISSION 0.030" (0.8mm) THICK |
| ACCESSORY | ECMU0040T | SHIM – TRANSMISSION 0.015" (0.4 mm) THIN |
| | EAC62021 | COMPLETE ENGINE |

Parts – Engine – Power Valve



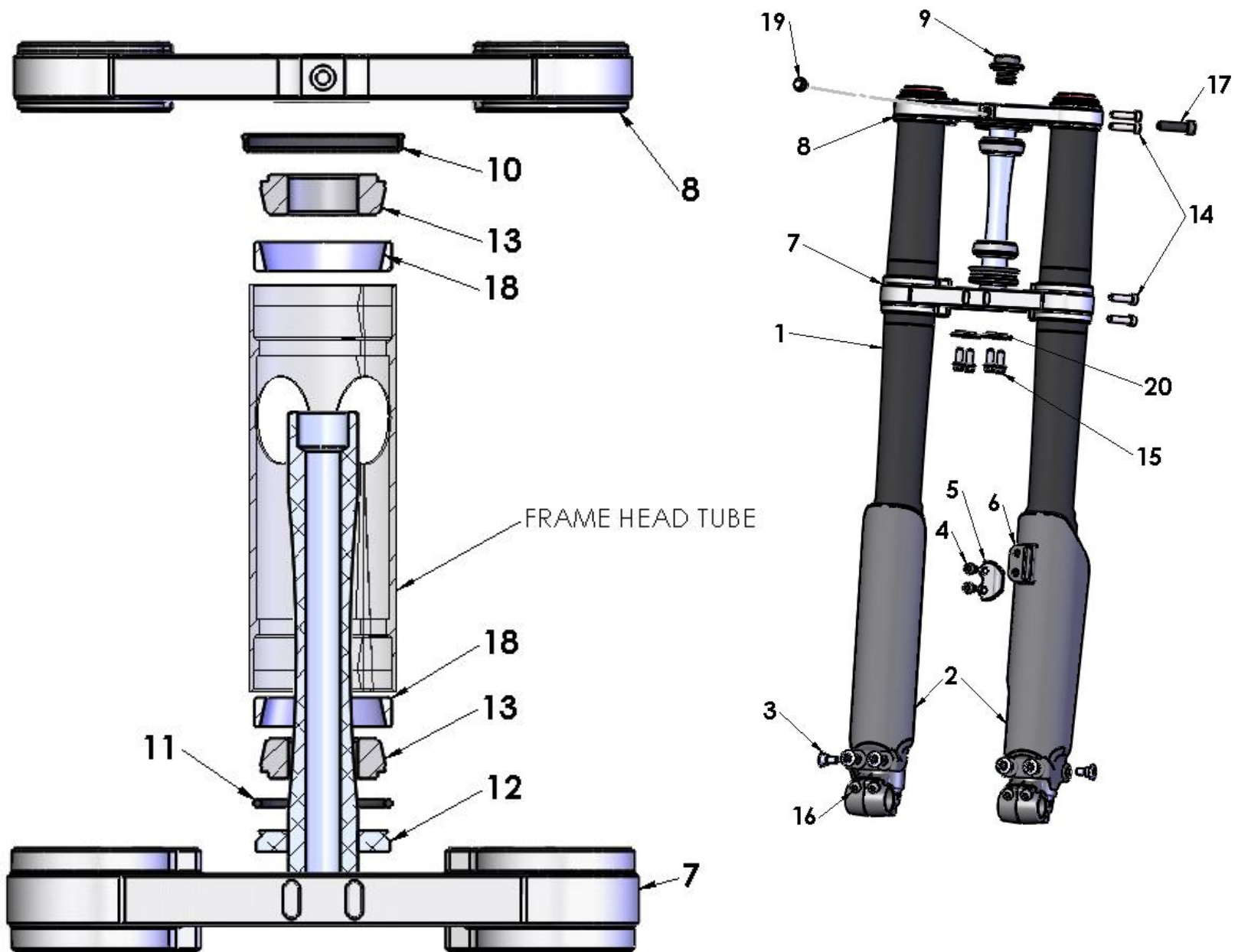
| Engine – Power Valve | | |
|----------------------|----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | EAC60019 | VALVE ASSY – PV - WITH LINK AND PLUNGER |
| 2 | ZCC60017 | O’RING – PV COVER |
| 3 | ECC60217 | SPRING – PV RETURN |
| 4 | ECC60089 | COVER – PV |
| 5 | EAC60021 | SOLENOID ASSY - PV |
| 6 | MCMUCL04 | CLAMP – VENT HOSE |
| 7 | ECC60133 | VENT HOSE |
| 8 | HCBC0501 | M5X12mm SOCKET HEAD CAP SCREW (2 REQ'D) |
| 9 | MCMUCL07 | CLAMP – BOOT TO COVER |
| 10 | ZCMUOR08 | O-RING |
| 11 | HCBB0506 | M5x 6 BUTTON HEAD CAP SCREW |
| 12 | ECC60220 | SPRING – PV FACE MOUNT |
| 13 | FCC60071 | SOLENOID CLAMP - PV |
| TOOL | MCMUTL19 | HARNESS – DIAGNOSTIC BREAKOUT |

Parts – Exhaust System



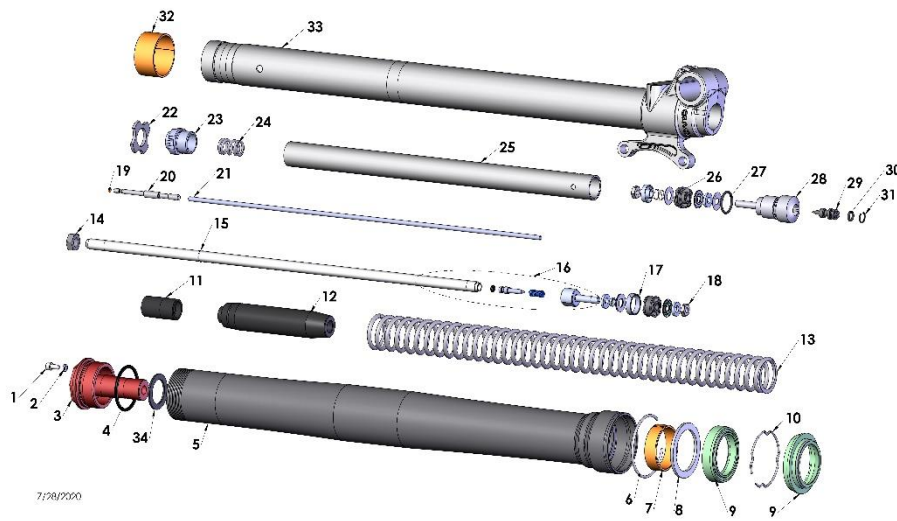
| Exhaust System | | |
|----------------|----------|--|
| REF # | PART # | DESCRIPTION |
| 1 | XCC62017 | EXPANSION CHAMBER – HGS |
| 2 | XCMU0033 | ISOLATION MOUNT |
| 3 | HCHA0003 | 6mm CLIP NUT- PLASTIC/PIPE MNT (1 REQ'D FOR PIPE & 2 REQ'D FOR SILENCER) |
| 4 | HCBF0616 | M6X16mm FLANGE HEAD BOLT (2 REQ'D) |
| 5 | ZCMOTE11 | O-RING – EXHAUST (2 REQ'D) |
| 6 | XCMU0005 | SPRING – PIPE – SHORT |
| 7 | XCKG0009 | SLEEVE – PIPE TO SILENCER |
| 8 | XAC62017 | SILENCER – COBRA |
| 9 | MCMUGR03 | GROMMET FOR RADIATOR (2 REQ'D) |
| 10 | TCKG0001 | SPACER GENERAL ½DIA 13.2 LG (2 REQ'D) |
| 11 | TCC60016 | SPACER TOP HAT (2 REQ'D) |
| 12 | HCBF0635 | M6X35mm FLANGE HEX-8mm HEAD |
| ACCESSORY | XCMU0026 | SILENCER PACKING KIT |

Parts – Forks & Triple Clamps



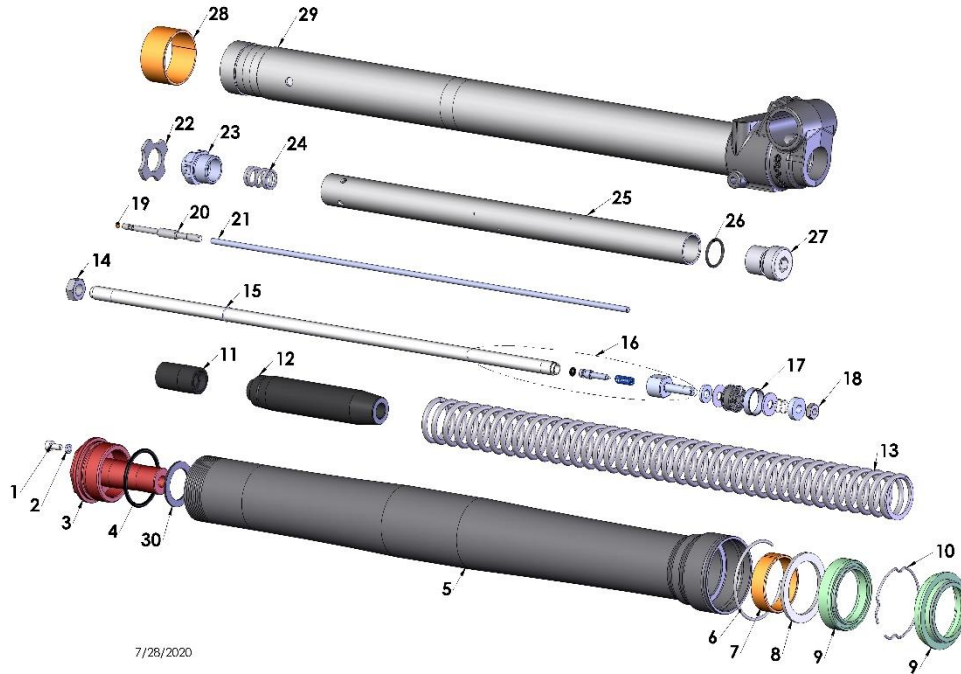
| Forks & Triple Clamps | | |
|-----------------------|----------|--|
| REF # | PART # | DESCRIPTION |
| 1 | KAC62013 | FORK COMPLETE, BRAKE & NON-BRAKE SIDE |
| 2 | KCC60014 | FORK GUARDS – PAIR (3 BOLT STYLE) |
| 3 | HCSP0610 | BOLT - FORK GUARD - 6MM ALUMINUM (6 REQ'D) |
| 4 | HCBC0612 | M6X12mm SOCKET HEAD CAP SCREW (2 REQ'D) |
| 5 | BCC60015 | CLAMP – BRAKE LINE |
| 6 | HCNS0601 | M6 NUT (2 REQ'D) |
| 7 | FAC60024 | TRIPLE CLAMP BOTTOM ASS'Y (CLAMP & STEERING STEM) |
| 8 | FCC60079 | TOP TRIPLE CLAMP |
| 9 | FCMU0073 | BOLT – STEERING STEM |
| 10 | FCMU079 | DUST COVER (1 REQ'D) |
| 11 | FCMU0044 | O-RING (1 REQ'D) |
| 12 | FCC60081 | SEAL RING - ORING - BOTTOM TRIP CLAMP |
| 13 | FCMU0004 | BEARING – STEERING HEAD (2 REQ'D) |
| 14 | HCBC0625 | M6X25mm SOCKET HEAD CAP SCREW (8 REQ'D) |
| 15 | HCBF0616 | M6X16 FLANGE HEAD SCREW (4 REQ'D) FENDER MOUNT |
| 16 | HCBC0601 | M6X16mm SOCKET HEAD CAP SCREW (4 REQ'D) AXLE |
| 17 | HCBC0806 | M8X30mm SHCS – STEERING STEM PINCH BOLT |
| 18 | FCMU0011 | RACE – STEERING HEAD BEARINGS |
| 19 | HCBF0612 | M6X12 FLANGE HEAD SCREW – NUBER PLATE MOUNT |
| 20 | TCC60021 | SPACER – FENDER MOUNT |
| | | |
| ACCESSORY | FKMU0008 | KIT – STEERING STEM BEARINGS, RACES AND SEALS-2019 |

Parts – Fork – Leg Assembly – Brake Side



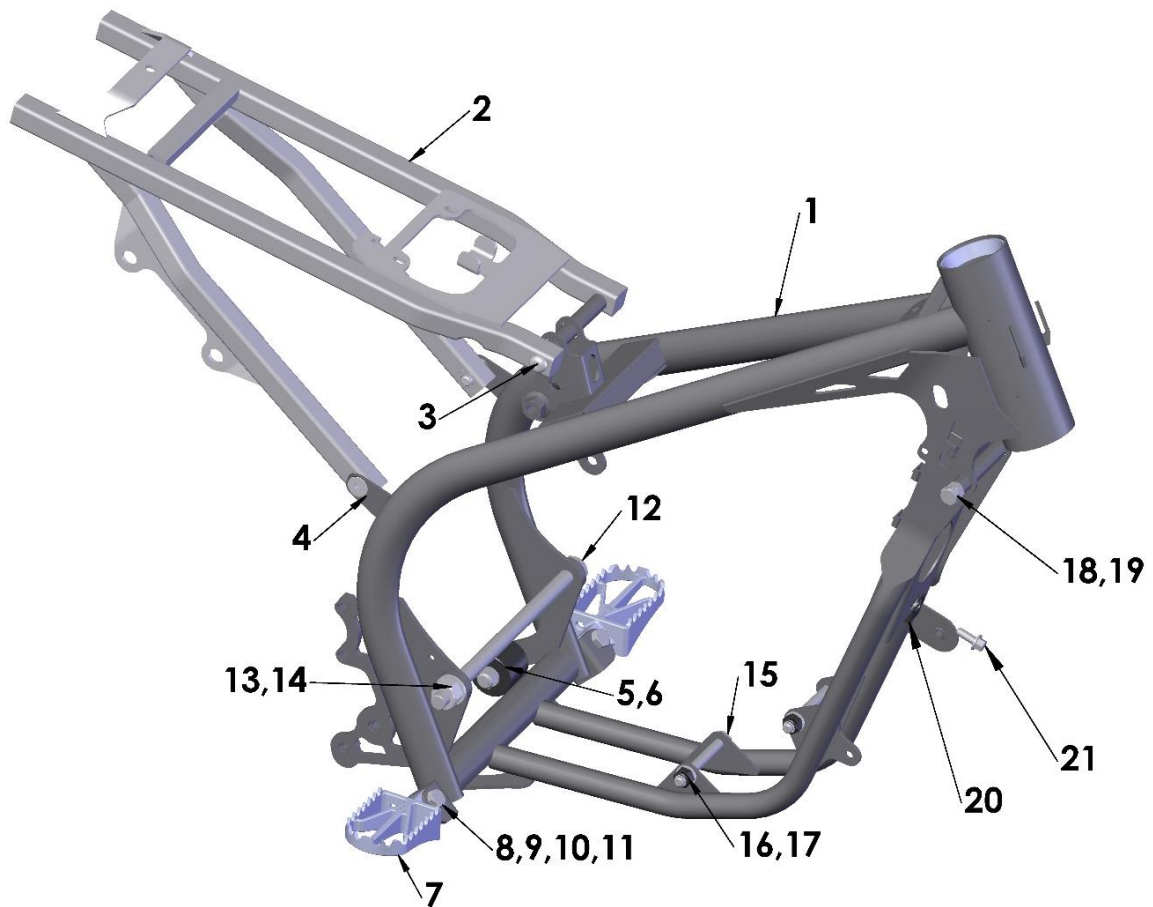
| Fork – Leg Assembly – Brake Side | | |
|----------------------------------|-----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | HCBC0408 | M4X8mm SOCKET HEAD CAP SCREW (BLEED SCREW) |
| 2 | ZCKG0001 | GASKET BLEED SCREW |
| 3 | KCC60044L | FORK CAP |
| 4 | ZCC60011 | O-RING FORK CAP |
| 5 | KCC60037 | FORK OUTER TUBE |
| 6 | KCC60043 | FORK OUTER WEAR RING CLIP |
| 7 | KCC60041 | FORK GUIDE RING BOTTOM |
| 8 | KCC60047 | FORK SEAL SPACER |
| 9 | KCC60039 | FORK SEAL & SWIPER KIT - 37mm - CX65 |
| 10 | KCC60066 | FORK SEAL RETAINER RING CLIP |
| 11 | KCC60067 | FORK BUMPER |
| 12 | KCC60064 | FORK SPRING GUIDE |
| 13 | KCC63726 | FORK SPRING .26 KG/MM (SINGLE) |
| 13 | KCC63724 | FORK SPRING .24 KG/MM (SINGLE) |
| 13 | KCC63728 | FORK SPRING .28 KG/MM (SINGLE) |
| 14 | HCNJ3824 | 3/8-24 JAM NUT CLASS 8 |
| 15 | KCC60068 | FORK SPRING GUIDE RETAINER RING CLIP |
| 16 | KAC60003 | FORK DAMPER ROD ASSEMBLY |
| 17 | KCCS0018 | FORK MID VALVE SEAL |
| 18 | HCNJ0601 | M6 JAM NUT |
| 19 | BCKG0033 | O-RING 2mm ID |
| 20 | KCC60052 | FORK ADJUSTMENT SCREW TOP |
| 21 | KCC60049 | FORK REBOUND ADJUSTMENT SCREW PIN |
| 22 | KCC60042 | FORK SPRING PERCH |
| 23 | KCMU0013 | FORK CARTRIDGE CAP W BUSHING |
| 24 | KCKG0050 | FORK TOP OUT SPRING |
| 25 | KCKG0019 | FORK CARTRIDGE TUBE |
| 26 | KCMU0021 | O-RING FORK BASE VALVE PISTON |
| 27 | ZCKGB017 | O-RING FORK BOTTOM PLUG |
| 28 | KCC60069 | FORK BOTTOM PLUG |
| 29 | KCC60048 | FORK ADJUSTMENT SCREW BOTTOM |
| 30 | ZCMUOR03 | O-RING |
| 31 | KCC60065 | FORK ADJUSTMENT SCREW BOTTOM RING CLIP |
| 32 | KCC60036 | FORK GUIDE RING TOP |
| 33 | KAC60001 | FORK LOWER BRAKE SIDE (NOT SOLD SEPARATELY) |
| 34 | KCC60053 | FORK SPRING PAD 37MM |

Parts – Fork – Leg Assembly – Non-Brake Side



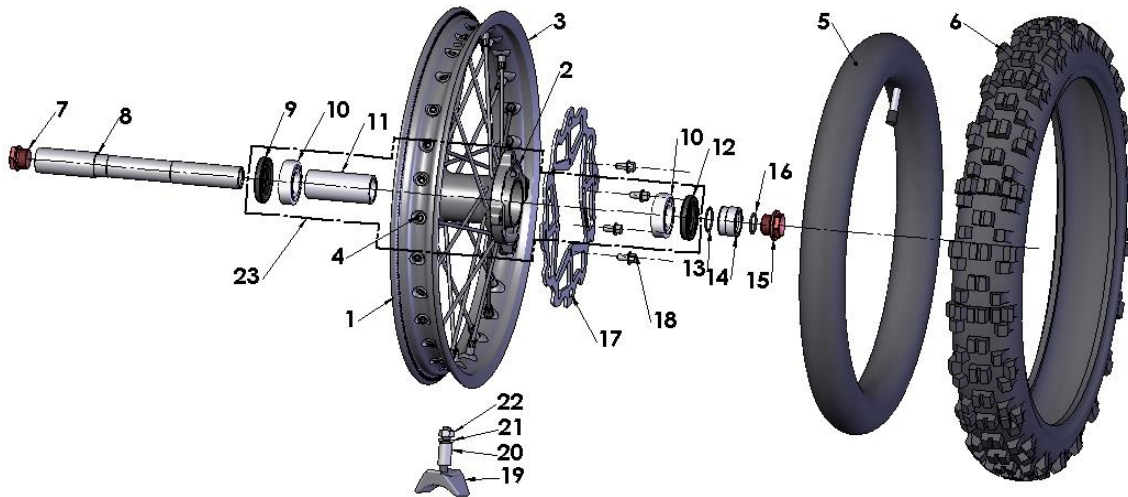
| Fork – Leg Assembly – Non-Brake Side | | |
|--------------------------------------|-----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | HCBC0408 | M4X8mm SOCKET HEAD CAP SCREW (BLEED SCREW) |
| 2 | ZCKG0001 | GASKET BLEED SCREW |
| 3 | KCC60044R | FORK CAP |
| 4 | ZCC60011 | O-RING FORK CAP |
| 5 | KCC60037 | FORK OUTER TUBE |
| 6 | KCC60043 | FORK OUTER WEAR RING CLIP |
| 7 | KCC60041 | FORK GUIDE RING BOTTOM |
| 8 | KCC60047 | FORK SEAL SPACER |
| 9 | KKC60039 | FORK SEAL & SWIPER KIT – 37mm - CX65 |
| 10 | KCC60066 | FORK SEAL RETAINER RING CLIP |
| 11 | KCC60067 | FORK BUMPER |
| 12 | KCC60064 | FORK SPRING GUIDE |
| 13 | KCC63726 | FORK SPRING .26 KG/MM (SINGLE) |
| 13 | KCC63724 | FORK SPRING .24 KG/MM (SINGLE) |
| 13 | KCC63728 | FORK SPRING .28 KG/MM (SINGLE) |
| 14 | HCNL3824 | 3/8-24 JAM NUT CLASS 8 |
| 15 | KCC60068 | FORK SPRING GUIDE RETAINER RING CLIP |
| 16 | KAC60003 | FORK DAMPER ROD ASSEMBLY |
| 17 | KCCS0018 | FORK MID VALVE SEAL |
| 18 | HCNJ0006 | M6 JAM NUT |
| 19 | BCKG0033 | O-RING 2mm ID |
| 20 | KCC60052 | FORK ADJUSTMENT SCREW TOP |
| 21 | KCC60049 | FORK REBOUND ADJUSTMENT SCREW PIN |
| 22 | KCC60042 | FORK SPRING PERCH |
| 23 | KCMU0013 | FORK CARTRIDGE CAP W BUSHING |
| 24 | KCKG0050 | FORK TOP OUT SPRING |
| 25 | KCC60056 | FORK CARTRIDGE TUBE – SMART |
| 26 | ZCKGB017 | O-RING FORK BOTTOM PLUG |
| 27 | KCC60057 | FORK BOTTOM PLUG – SHORT |
| 28 | KCC60036 | FORK GUIDE RING TOP |
| 29 | KAC60002 | FORK LOWER NON-BRAKE SIDE (NOT SOLD SEPARATELY) |
| 30 | KCC60053 | FORK SPRING PAD 37MM |

Parts – Frame



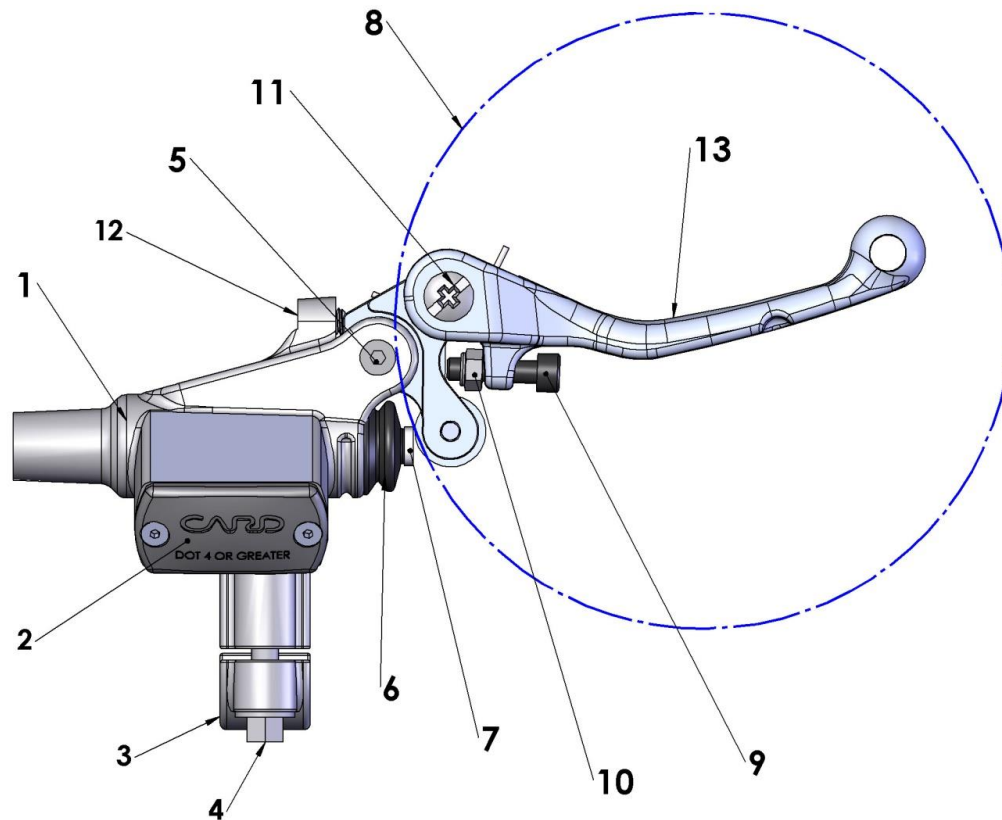
| Frame | | |
|-----------|-----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | FAC62019G | FRAME WELDED ASSEMBLY |
| 2 | FAC60016 | SUBFRAME CX65 |
| 3 | HCBB0835 | 8X35MM BUTTON HEAD SCREW (2 REQ'D) – TOP MOUNT |
| 4 | HCFH0825 | 8X25MM FLAT HEAD CAP SCREW – (2 REQ'D) – BOTTOM MOUNT |
| 5 | FCC60020 | CHAIN ROLLER WITH BOLT, BEARINGS & SEALS |
| 6 | BCDC0153 | WASHER |
| 7 | TCMU0139 | FOOTPEG SET ULTRA WIDE CX65 WITH SPRINGS |
| 8 | TCC60012 | SPRING – FOOTPEG - ULTRA WIDE 07 (2 REQ'D) |
| 9 | FCMU0031 | CLEVIS PIN - FOOTPEG |
| 10 | HCWF0801 | 8mm FLAT WASHER |
| 11 | HCCP0008 | COTTER PIN 1/8 X 3/4 |
| 12 | GCC60020 | SWINGARM PIVOT BOLT - TI |
| 13 | HCWF1202 | 12MM FLAT WASHER |
| 14 | HCNL1201 | 12MM LOCKNUT |
| 15 | HCBH0865 | 8X65MM HEX HEAD – FRONT ENGINE MOUNTS (2 REQ'D) |
| 16 | HCWF0801 | 8MM FLAT WASHER – FRONT ENGINE MOUNTS (4 REQ'D) |
| 17 | HCNL0801 | 8MM LOCKNUT – FRONT ENGINE MOUNTS (2 REQ'D) |
| 18 | HCBH0807 | 8X20MM HEX HEAD – STEERING STOP (2 REQ'D) |
| 19 | HCNS0801 | 8MM NUT – STEERING STOP (2 REQ'D) |
| 20 | HCHA0003 | 6mm CLIP NUT |
| 21 | HCBF0616 | M6 x 16 FLANGE HEAD BOLT |
| NOT SHOWN | MCMUZT28 | ZIP TIE – REUSABLE |

Parts – Front Wheel



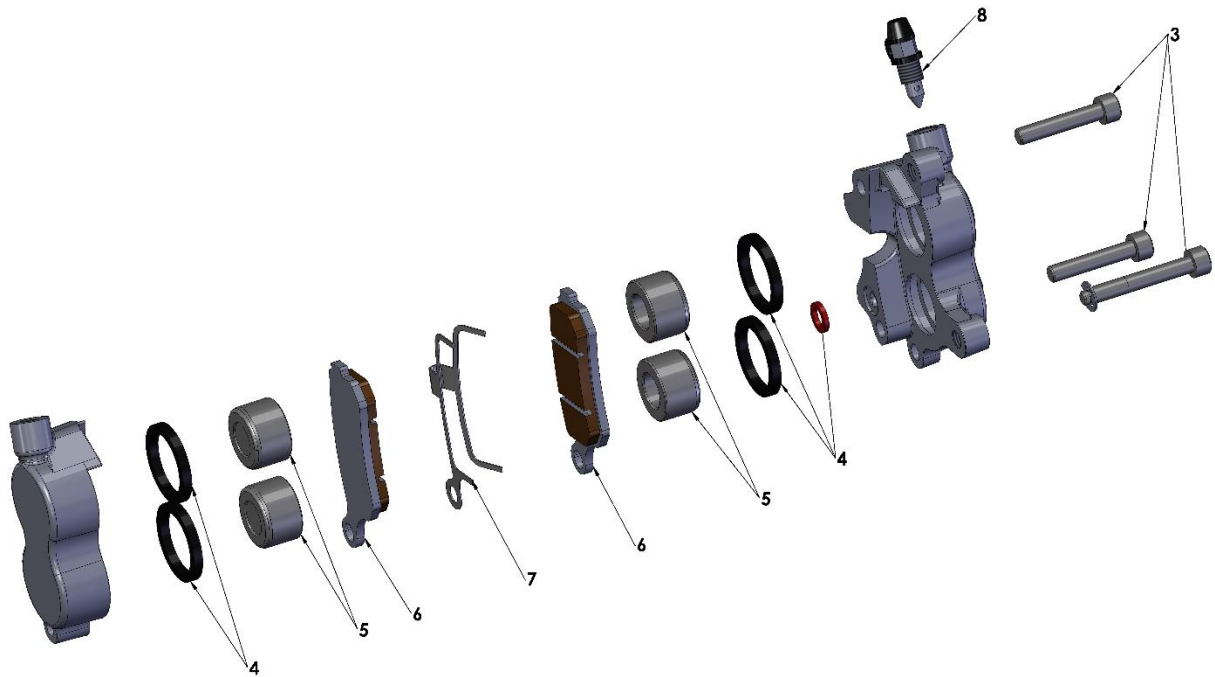
| Front Wheel | | |
|-------------|-------------|---|
| REF# | PART # | DESCRIPTION |
| 1 | WAC6F018 | WHEEL 14" FRONT WITH BEARINGS & SEALS (NO TIRE, OR TUBE), BLACK |
| 2 | WCC60122 | HUB FOR CX65 – FRONT |
| 3 | WCMU1418BLK | 14" RIM, BLACK |
| 4 | WKC6F018 | SPOKE W ALUMINUM NIPPLE-FRONT WHEEL-65 (28 REQ'D) |
| 5 | WCDCTU14 | TUBE – 60/100-14 FRONT |
| 6 | WCC6F014D32 | TIRE - FRONT- 60/100-14 - DUNLOP MX3S |
| 7 | WCC60024 | PLUG – AXLE - NON BRAKE SIDE (SMALER ONE) |
| 8 | WCC60021 | AXLE FRONT STEEL |
| 9 | WCC60029 | SEAL BEARING NON-BRAKE SIDE FRONT HUB |
| 10 | WCC60027 | BEARING, WHEEL-SEALED (2 REQ'D) |
| 11 | WCC60030 | SPACER WHEEL BEARING FRONT |
| 12 | WCC60026 | SEAL BEARING BRAKE SIDE FRONT HUB |
| 13 | ZCMUOR22 | O'RING – SPACER - FRONT AXLE |
| 14 | WCC60025 | WHEEL SPACER FRONT LEFT |
| 15 | WCC60023 | PLUG – AXLE - BRAKE SIDE (LARGER ONE) |
| 16 | ZCKGB017 | O'RING – AXLE CAP |
| 17 | BCC60100 | BRAKE ROTOR - FRONT |
| 18 | HCBF1612 | M6X12mm FLANGE HEAD – LOW PROFILE (4 REQ'D) |
| 19 | WCMU0110 | RIM LOCK – 1.4/1.6 |
| 20 | WCDC0008 | RIM LOCK SPACER |
| 21 | HCWF0801 | 8mm FLAT WASHER |
| 22 | HCNS0801 | M8 NUT |
| 23 | WAC6F118 | FRONT HUB ASSEMBLY WITH BEARINGS, SEALS, AND SPACER |
| TOOL | MCMUTL17 | WRENCH – SPOKE |

Parts – Front Brakes – Master Cylinder



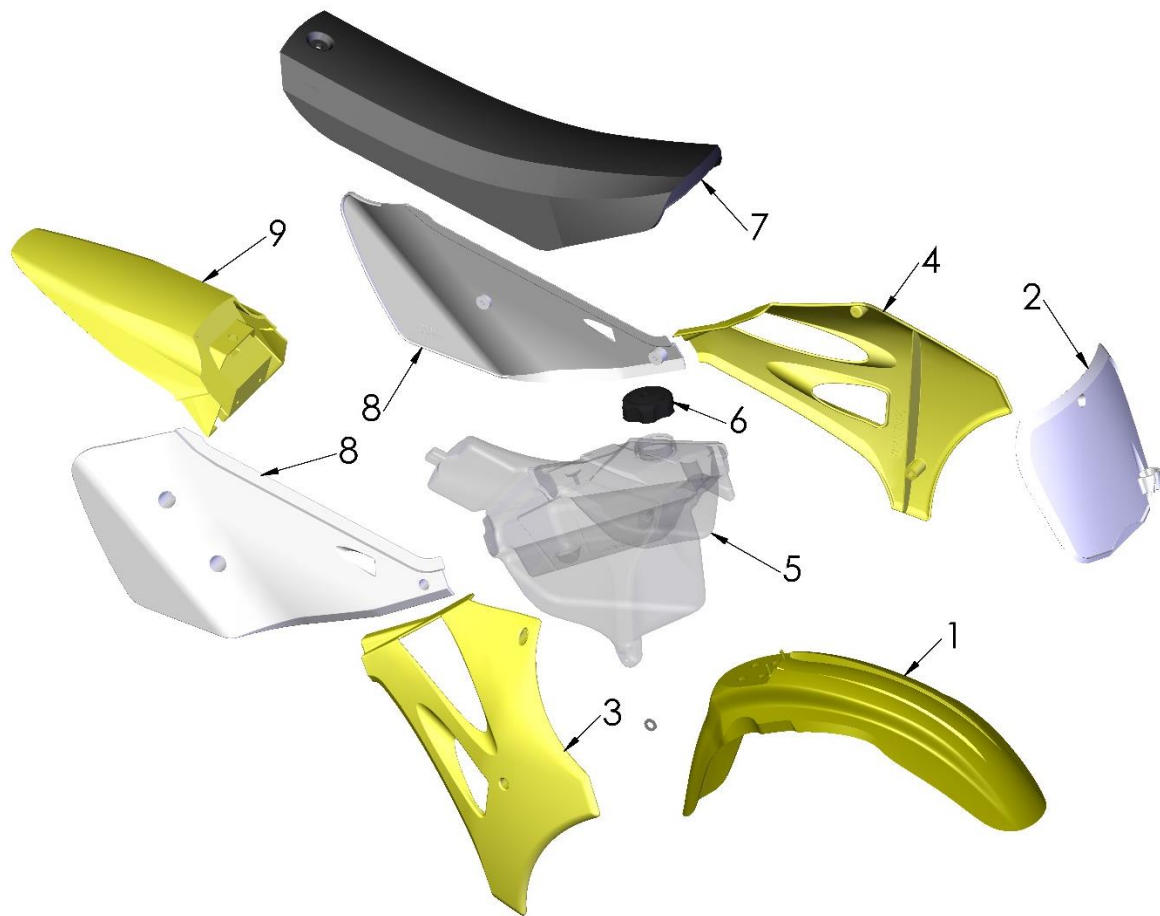
| Front Brakes | | |
|--------------|----------|--|
| REF# | PART # | DESCRIPTION |
| | BAC60017 | ASSY – FRONT BRAKE SYSTEM COMPLETE - FRONT CX65 |
| 1 | BAC60016 | ASSEMBLY - BRAKE MASTER CYLINDER (M/C) W LEVER ASSY |
| 2 | BKC60008 | CAP & BLADDER KIT ZL150 (CAP, BLADDER & (2) M3-0.5 X 6mm LONG PHILLIPS SCREW) |
| 3 | BCC60058 | CLAMP – M/C ZL150 |
| 4 | HCBF1625 | M6-1.0 X 25mm LONG FLANGE HEAD BOLT |
| 5 | BCMU0060 | PIVOT BOLT – PIVOT BLOCK TO MASTER CYLINDER HOUSING (BOLT & CLIP) |
| 6 | BCC60017 | BOOT – PISTON END COVER |
| 7 | BKC60015 | REBUILD KIT – MASTER CYLINDER ZL150 (PISTON, SEALS, SPRING, CLIP & RETAINING WASHER) |
| 8 | CKC60004 | LEVER ASSEMBLY - CLUTCH / BRAKE - BRAKEAWAY ROLLER (LEVER ON PIVOT BLOCK W ROLLER & ADJUSTMENT SCREW W NUT) |
| 9 | HCBC0502 | M5 X 20 SOCKET HEAD CAP SCREW - LEVER POSITION ADJUSTMENT |
| 10 | HCNL0501 | 5MM LOCKNUT |
| 11 | CKC60005 | PIVOT BOLT KIT – LEVER TO PIVOT BLOCK (MALE AND FEMALE BOLTS) |
| 12 | HCSS0601 | SET SCREW – PRESET |
| 13 | CCC60015 | LEVER ONLY – CLUTCH OR BRAKE |
| ACCESSORY | BAMU0005 | LEVER ASSEMBLY - SHORTY |
| NOT SHOWN | BCMU0116 | BOOT – PIVOT COVER |
| NOT SHOWN | CCC60026 | SPRING – LEVER RETURN |
| NOT SHOWN | CCC60025 | SPACER – SPRING CENTERING |
| NOT SHOWN | BCC60054 | LINE – FRONT CX65 ZL150 |

Parts – Front Brakes – Caliper



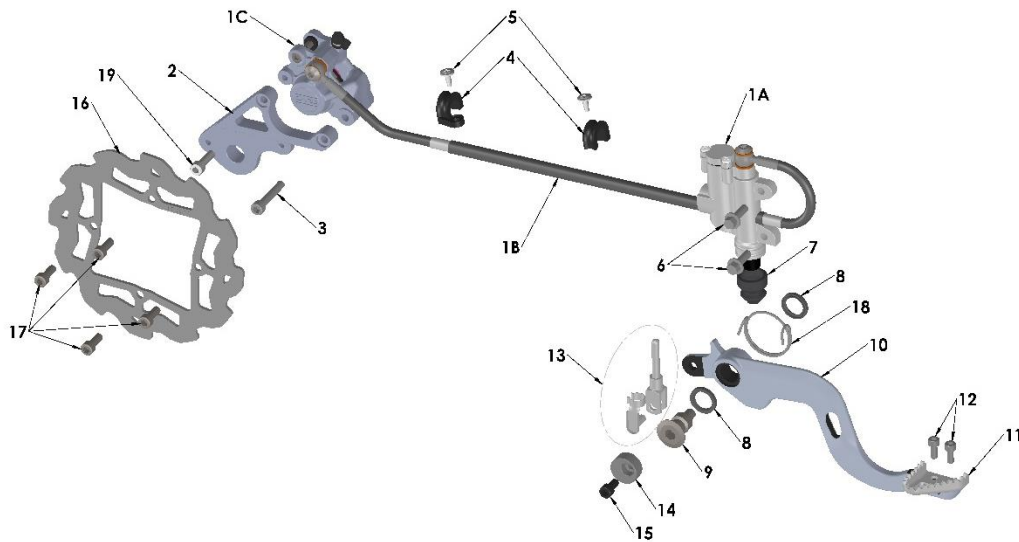
| Front Brakes | | |
|--------------|----------|---|
| REF# | PART # | DESCRIPTION |
| 1 | BAC60008 | ASSY COMPLETE – FRONT CX65 (M/C-LINE-CALIPER) ZL150 |
| 2 | BAC60009 | CALIPER ASSY – CX65 ZL150 |
| 3 | BKC60003 | CALIPER FASTENER KIT ZL150 |
| | | <i>PAD PIN - ZL150</i> |
| | | <i>CLIP - PIN ZL150</i> |
| | | <i>2 - M6X32mm LONG ZL150</i> |
| 4 | BKC60002 | SEAL KIT – CALIPER ZL150 |
| | | <i>1 - CALIPER CENTER SEAL ZL150</i> |
| | | <i>4 - SEAL BRAKE PISTON ZL150</i> |
| 5 | BCC60068 | PISTON – CALIPER ZL150 (4 REQUIRED) |
| 6 | BCC60050 | PAD SET ZL150 |
| 7 | BCC60051 | SPRING – PAD ZL150 |
| 8 | BCC60033 | BLEED SCREW & CAP KIT |
| NOT SHOWN | BCC60054 | LINE FRONT CX65 ZL150 |

Parts – Plastic Bodywork & Seat



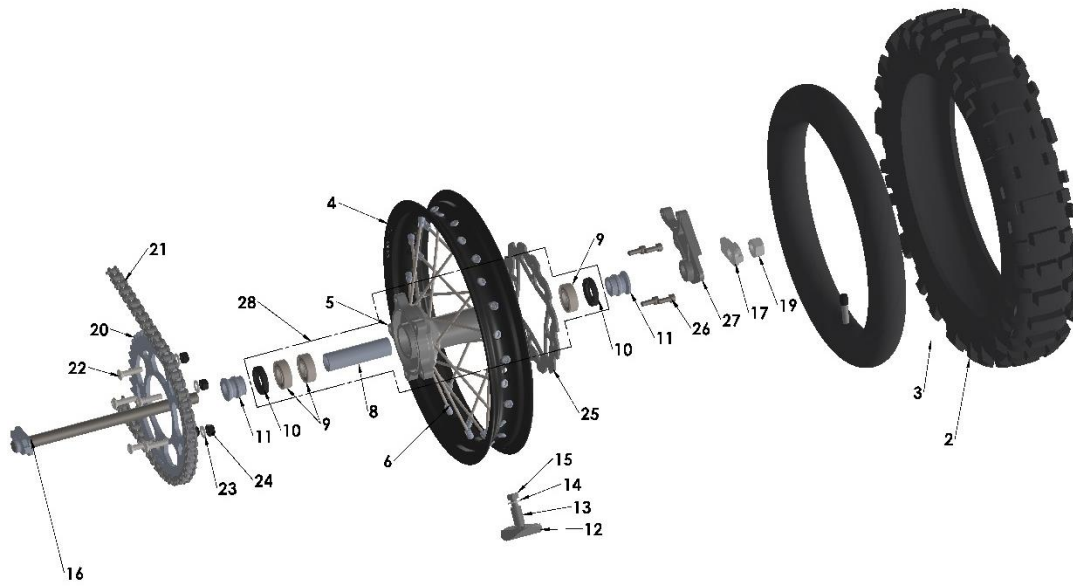
| Plastic Bodywork & Seat | | |
|-------------------------|-------------|---|
| REF # | PART # | DESCRIPTION |
| 1 | TCC60020FXX | FRONT FENDER – MEGA FLO YELLOW |
| 1 | TCC60020BLK | FRONT FENDER – BLACK |
| 1 | TCC60020WHT | FRONT FENDER – WHITE |
| 1A | HCBF0616 | FENDER BOLT, M6X16 FLANGE HEAD (4 REQ'D) |
| 1B | TCC60021 | SPACER – FRONT FENDER BOLT (4 REQ'D) |
| 2 | TCC60002W | NUMBER PLATE FRONT - WHITE - STANDARD |
| 2 | TCC60002B | NUMBER PLATE FRONT - BLACK |
| 2 | TCC60002 | NUMBER PLATE FRONT - YELLOW |
| 2A | HCBF0616 | M6X16mm FLANGE HEAD BOLT – FRONT NUMBER PLATE MOUNT |
| 3 | TCC60023FXX | SHROUD RIGHT – MEGA FLO YELLOW |
| 3A | HCSP0004 | PLASCREW – SHROUD TO TANK (2 REQ'D) |
| 4 | TCC60022FXX | SHROUD LEFT – MEGA FLO YELLOW |
| 4A | TCC60017 | BODY PANEL WASHER 5mm (1 REQ'D) – MT SHROUD TO RADIATOR |
| 4B | HCBC0516 | M5X16mm SHCS (1 REQ'D) – MOUNT SHROUD TO RADIATOR |
| 4C | HCCN0000 | 5mm EXTRUDED “U” NUT |
| 4D | HCSP0004 | PLASCREW – SHROUD TO TANK |
| 5 | TCC60024C | FUEL TANK - CLEAR (NO PETCOCK OR CAP) |
| 5A | HCBC0503 | M5X30mm SHCS – FRONT TANK MOUNTING |
| 5B | TCC60027 | SPACER – FRONT TANK MOUNTING |
| 5C | TCC60029 | SPACER – SEAT MOUNT |
| 5D | HCFH0620 | M6X20mm FLAT HEAD – FRONT SEAT MOUNT |
| 5E | TCMU0151 | PETCOCK |
| 6 | TCHA0002 | CAP – FUEL TANK |
| 6A | TCHA0003 | HOSE – FUEL CAP |
| 7 | TAC60002 | SEAT – CX65 |
| 7A | TCC60028 | SEAT COVER REPLACEMENT |
| 7B | HCBC0625 | M6X25mm SOCKET HEAD CAP SCREW – SEAT HOLDING |
| 7C | TCC60018 | SPECIAL WASHER – SEAT HOLDING |
| 8 | TCC60005WHT | SIDE NUMBER PLATE – PAIR – WHITE – STANDARD |
| 8 | TCC60005BLK | SIDE NUMBER PLATE – PAIR – BLACK |
| 8 | TCC60005 | SIDE NUMBER PLATE – PAIR – YELLOW |
| 8A | HCBC0516 | M5X16mm SOCKET HEAD CAP SCREW (3 REQ'D) |
| 8B | HCBF0630 | M6X30mm FLANGE HEAD BOLT – SILENCER (2 REQ'D) |
| 8C | TCC60017 | BODY PANEL WASHER 5mm (3 REQ'D) |
| 8D | TCC60016 | BODY PANEL WASHER 6mm (2 REQ'D) |
| 9 | TCC60007FXX | FENDER – REAR – WHITE – MEGA FLO YELLOW - STANDARD |
| 9 | TCC60007BLK | FENDER – REAR – BLACK |
| 9 | TCC60007WHT | FENDER – REAR – WHITE |
| 9A | HCSP0004 | PLASCREW – FENDER TO AIRBOX (2 REQ'D) |
| 9B | HCBC0516 | M5x16mm SOCKET HEAD CAP SCREW (2 REQ'D) |
| 9C | HCWP0002 | WASHER - BODY PANEL FLAT (2 REQ'D) |
| 9D | HCHA0003 | CLIP NUT – M6 |
| | TCMU2020 | GRAPHIC KIT |
| ACCESSORY | TKC62019B | BODYWORK KIT – BLACK |
| ACCESSORY | TKC62019W | BODYWORK KIT – WHITE |
| ACCESSORY | TKC62021FXX | BODYWORK KIT – MEGA FLO YELLOW |

Parts – Rear Brake



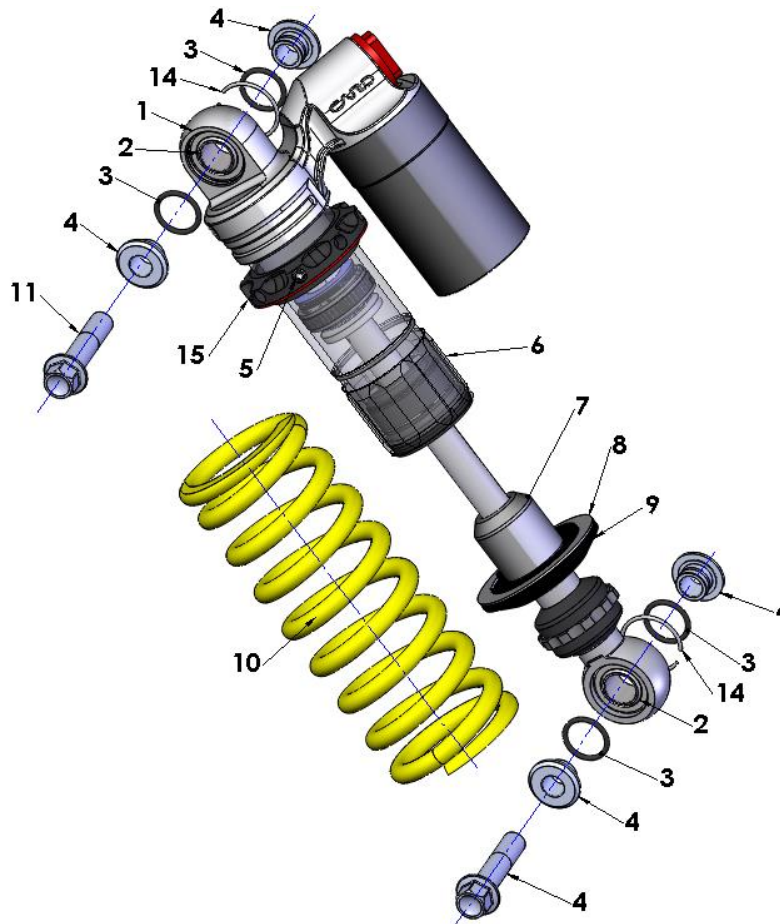
| Rear Brake System | | |
|-------------------|-----------|--|
| REF # | PART # | DESCRIPTION |
| 1 | BAC60014 | BRAKE ASSEMBLY REAR (MASTER CYLINER, LINE AND CALIPER) |
| 1A | BAC60015 | MASTER CYLINDER CX65 11MM FORMULA |
| 1B | BCC60037 | LINE REAR CX65 |
| 1C | BAMU0010 | CALIPER CX65 |
| 2 | BCC60093 | BRACKET – CALIPER MOUNTING |
| 3 | HCBC0604 | M6 x 35 SOCKET HEAD CAP SCREW |
| 4 | HCCC0005 | HOSE GUIDE (2 REQUIRED) |
| 5 | HCPP0832 | #8X1/2 SELF TAPING SCREW (2 REQUIRED) |
| 6 | HCBF0620 | M6X20mm FLANGE HEX-8MM HEAD |
| 7 | BCMU0022 | RUBBER CAP – BOTTOM OF MASTER CYLINDER |
| 8 | BCMU0501 | SEAL-BRAKE PEDAL (2 REQUIRED) |
| 9 | BCMU0027 | PIVOT BOLT – ALUMINUM BRAKE PEDAL |
| 10 | BCMU0023 | BRAKE PEDAL WITH TOE PIECE |
| 11 | BCMU0023T | TOE PIECE – BRAKE PEDAL |
| 12 | HCBC0501 | M5X 12mm SOCKET HEAD CAP SCREW |
| 13 | BCDC0004 | PUSH ROD ASSEMBLY WITH CLEVIS - CX65 |
| NOT SHOWN | BCDCBU01 | BUSHING – BRAKE PEDAL |
| 14 | FCEX0018 | ECCENTRIC – ADJUST |
| 15 | HCBC0612 | M6X12mm SOCKET HEAD CAP SCREW |
| 16 | BCC60004 | ROTOR REAR |
| 17 | HCBC0601 | M6X16mm SCOCKET HEAD CAP SCREW (4 REQUIRED) |
| 18 | BCMUSP02 | SPRING – REAR BRAKE PEDAL |
| 19 | HCBC0602 | M6X20mm SCOCKET HEAD CAP SCREW |
| ACCESSORY | BKC60011 | PAD SET CX65 SINTERED METAL W BOLT AND CLIP |
| ACCESSORY | BKMU0003 | BLEED KIT (MULTIPLE SYRINGES, FITTINGS & HOSE) |
| ACCESSORY | BCMU0038 | SPRING - BRAKE PAD RETURN |
| ACCESSORY | BKMU0006 | PISTON & SEAL KIT – CARD - STAINLESS |
| ACCESSORY | BKMU0008 | BLEED SCREW KIT – CARD |
| ACCESSORY | BCC60034 | CAP ONLY BLEED SCREW CX65 |
| ACCESSORY | BCKG0016 | CAP & SEAL KIT – MASTER CYLINDER |
| ACCESSORY | BCKG0015 | REBUILD KIT – MASTER CYLINDER |
| ACCESSORY | BKMU0007 | BANJO BOLT AND WASHER KIT – CARD |
| ACCESSORY | BCC60045 | SHARK FIN |
| TOOL | BKMU0003 | BLEEDING KIT – FORMULA & CARD |

Parts – Rear Wheel



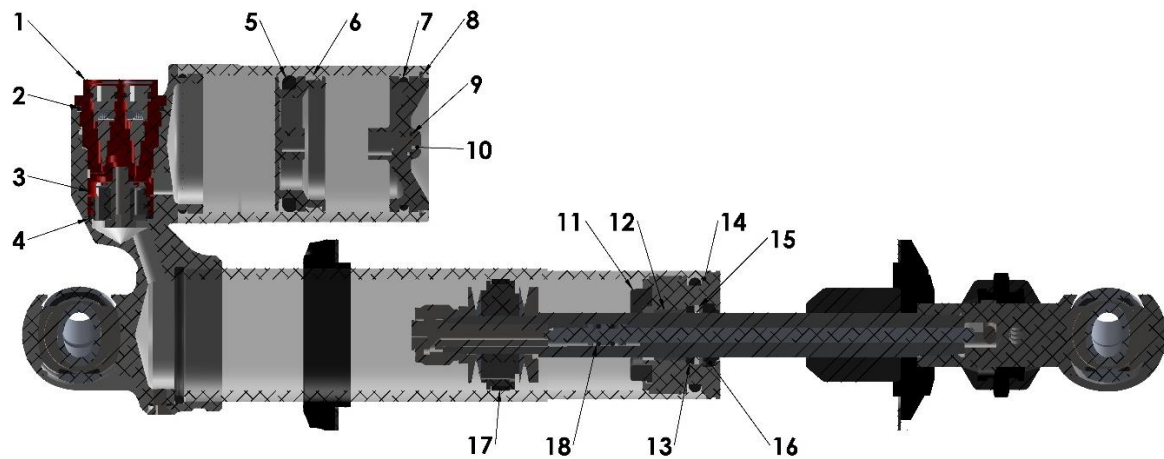
| Rear Wheel | | |
|------------|-------------|--|
| REF # | PART # | DESCRIPTION |
| 1 | WAC6R018 | WHEEL 12" REAR W BEARINGS, BLACK (NO TIRE, TUBE, ROTOR OR SPROCKET) |
| 2 | WCC6R012D32 | TIRE - REAR - 80/100-12 - DUNLOP MX3S |
| 3 | WCDCTU12 | TUBE – 275-80/100-12 REAR |
| 4 | WCMU1218BLK | 12" RIM, BLACK |
| 5 | WCC60134 | HUB REAR SEALED - BLACK |
| 6 | WKC6R018 | SPOKE & ALUMINUM NIPPLE KIT – REAR WHEEL-65 (28 REQ'D) |
| 8 | WCC60037 | SPACER – REAR WHEEL BEARING |
| 9 | WCMU0120 | BEARING, WHEEL |
| 10 | WCC60035 | SEAL – REAR HUB |
| 11 | WCC60036 | SPACER – L&R REAR WHEEL |
| 12 | WCMU0110 | RIM LOCK – 1.4/1.6 |
| 13 | WCDC0008 | RIM LOCK SPACER |
| 14 | HCWF0801 | 8mm FLAT WASHER |
| 15 | HCNS0801 | 8mm NUT |
| 16 | WCC60010 | AXLE REAR CX65 - TI |
| 17 | GCC60010 | CHAIN ADJUST BLOCK OFFSET |
| 19 | WCC60011 | NUT – ALUMINUM ACORN |
| 20 | PCC618xx | SPROCKET – xx denotes number of teeth (37-53) |
| 21 | PCMU0116 | CHAIN 420H 116 LINK CX65 14/48 |
| 22 | HCSP0701 | 7mm SPROCKET BOLT (5 REQ'D) |
| 23 | HCWF0701 | 7mm FLAT WASHER (5 REQ'D) |
| 24 | HCNL0701 | 7mm LOCK NUT (5 REQ'D) |
| 25 | BCC60199 | BRAKE ROTOR REAR |
| 26 | HCBC0601 | M6X16mm SHCS (4 REQ'D) |
| 27 | BCC60093 | BRACKET – CALIPER MOUNTING |
| 28 | WAC6R118 | REAR HUB ASSEMBLY WITH BEARINGS, SEALS, AND SPACER |
| TOOL | MCMUTL17 | WRENCH – SPOKE |

Parts – Shock External



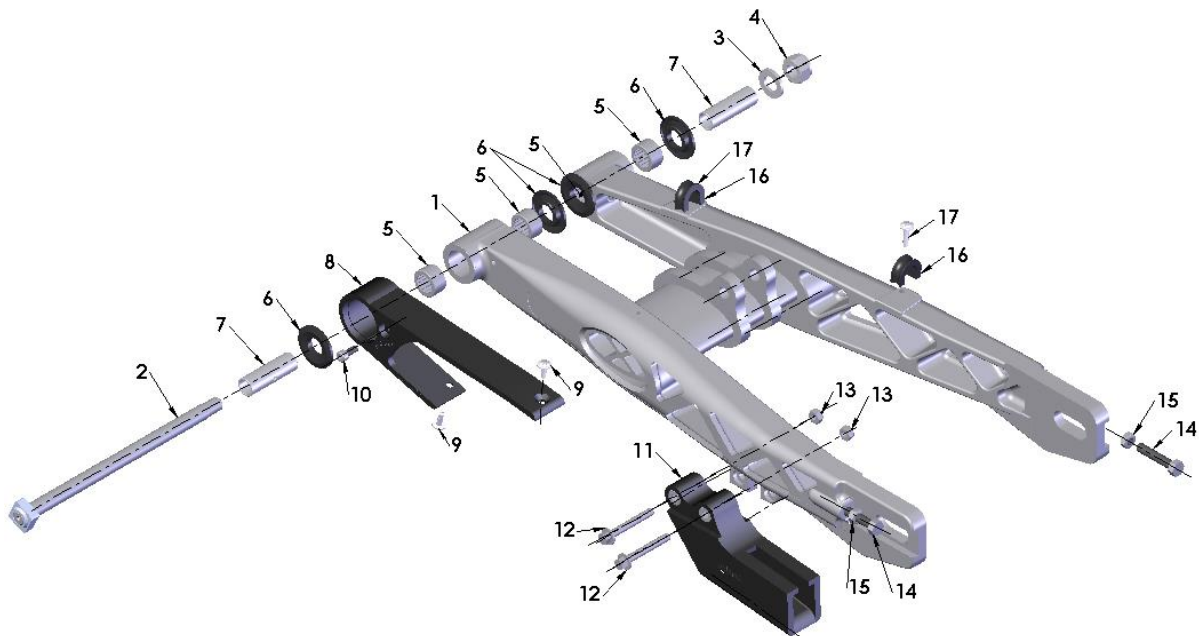
| Shock | | |
|-----------|------------|--|
| REF # | PART # | DESCRIPTION |
| 1 | SAC62016 | SHOCK ABSORBER – CX65 |
| 2 | SCMU0043 | SHOCK – BEARING SPHERICAL SHOCK MOUNT–CARD (2 REQ'D) |
| 3 | SCMU0039 | O-RING – SHOCK - BUSHING – CARD (4 REQ'D) |
| 4 | SCMU0042 | SHOCK – MOUNT BUSHING – CARD (4 REQ'D) |
| 5 | SCMU0058 | SHOCK – WHITE NYLON TIP SETSCREW M6-1.0 - CARD |
| 6 | SCMU0056 | SHOCK – SLEEVE BLACK - CARD |
| 7 | SCMU0100 | BUMPER – TAPPERED - SHOCK |
| 8 | SCMU0040 | PAD – SPRING - CARD |
| 9 | SCMU0054 | PERCH – SPRING - CARD |
| 10 | SCC60220P | SPRING EXTRA EXTRA LIGHT 220 LB/IN (38.5 N/mm) RED |
| 10 | SCC60240P | SPRING EXTRA LIGHT 240 LB/IN (42N/mm) WHITE |
| 10 | SCC60260PY | SPRING STANDARD 260 LB/IN (45.5 N/mm) YELLOW |
| 10 | SCC60280PG | SPRING HEAVY 280 LB/IN (49 N/mm) GOLD |
| 10 | SCC60300 | SPRING HEAVY 300 LB/IN (52.5 N/mm) RED |
| 11 | HCBF1040 | M10 X 40 HEX HEAD BOLT |
| 12 | HCBH1055 | M10 X 55 HEX HEAD BOLT |
| 13 | HCNL1001 | 10mm LOCKNUT-REGULAR |
| 14 | SCMU0330 | RING -SPERICAL BEARING RETAINING -CARD SHOCKS |
| 15 | SCMU0120 | PRELOAD ADJUSTER – CARD SHOCK |
| ACCESSORY | SKC60002 | REBUILD KIT – CARD SHOCK |

Parts – Shock – Internal



| Shock | | |
|-----------|----------|---|
| REF # | PART # | DESCRIPTION |
| 1 | SAMU0001 | COMPRESSION ADJUSTER ASSEMBLY – COMPLETE |
| 2 | ZCMUB020 | O-RING – COMPRESSION ADJUSTER – OUTSIDE |
| 3 | KCMU0021 | O-RING – COMPRESSION ADJUSTER – PISTON SEAL |
| 4 | ZCMUOR37 | O-RING – COMPRESSION ADJUSTER – INSIDE |
| 5 | SCMU0051 | O-RING – IFP |
| 6 | SCMU0052 | IFP SEAL BAND |
| 7 | SCMU0033 | O-RING SHOCK BASE |
| 8 | SCMU0050 | RESERVOIR CAP RETAINER RING |
| 9 | SCMU0035 | O-RING CHARGE CAP |
| 10 | HCBB0506 | M5X6mm LONG BUTTON HEAD STAINLESS STEEL |
| 11 | SCMU0044 | BUMPER – SEAL HEAD |
| 12 | SCMU0048 | SHAFT BUSHING |
| 13 | SCMU0046 | X-RING SEAL – SHOCK |
| 14 | SCMU0034 | O-RING SEAL HEAD |
| 15 | SCMU0047 | SPACER – X-RING |
| 16 | SCMU0045 | DUST SEAL – SHOCK SHAFT |
| 17 | SCC60014 | PISTON BAND |
| 18 | SCMU0059 | O-RING REBOUND PIN |
| 19 | SCC60013 | CHECK VALVE NUT |
| 20 | SCC60011 | CHECK VALVE SHIM .10 X 17 X 6 |
| 21 | SCC60012 | CHECK VALVE BOLT |
| 22 | SCMU0029 | O’RING - BODY & RESERVOIR SEAL TO BODY CAP |
| | | |
| | SCCM0001 | SEAL HEAD – WITHOUT COMPONENTS |
| | SKMU0002 | SEAL HEAD - COMPLETE |
| ACCESSORY | SKC60002 | REBUILD KIT – CARD SHOCK |

Parts – Swingarm Assembly



| Swingarm | | |
|----------|----------|--|
| REF # | PART # | DESCRIPTION |
| 1 | GKC60001 | SWINGARM ASSY – (includes items 5 – 18) |
| 2 | GCC60020 | BOLT – SWINGARM PIVOT - TI |
| 3 | HCWF1202 | 12mm WASHER – SWINGARM PIVOT |
| 4 | HCNL1201 | M12 LOCK NUT – SWINGARM PIVOT |
| 5 | GCC60017 | BEARING – SWINGARM PIVOT (4 REQ'D) |
| 6 | GCC60018 | SEAL / THRUST BEARING – SWINGARM PIVOT (4 REQ'D) |
| 7 | GCC60019 | TUBE – SWINGARM PIVOT (2 REQ'D) |
| 8 | TCC60004 | CHAIN SLIDER TOP FOR SWINGARM |
| 9 | HCFH0516 | M5 X 16mm FLAT HEAD SCREW (2 REQ'D FOR CHAIN SLIDER) |
| 10 | HCBC0501 | M5X12mm SHCS – CHAIN SLIDER MOUNT |
| 11 | PCC60004 | CHAIN GUIDE (BOTTOM) CX65 |
| 12 | HCBF0640 | M6X40mm FLANGE HEAD BOLT (2 REQ'D) |
| 13 | HCNL0601 | M6 LOCK NUT (2 REQ'D) |
| 14 | HCBH0701 | M7X35mm HEX HEAD FULL THREAD (2 REQ'D) |
| 15 | HCNS0701 | M7 NUT (2 REQ'D) |
| 16 | HCCC0005 | GUIDE - BRAKE HOSE (2 REQ'D) |
| 17 | HCPP0834 | #8X3/4 SELF TAPING SCREW (2 REQ'D) |
| 18 | GCMU0012 | FITTING – GREASE (2 REQ'D) |

Service

Trained technicians with precision gauging and proper assembly fixtures carefully assemble all Cobra engines to specific tolerances. If you feel you have the skills, and the appropriate tools, to perform the following service tasks please follow the instructions closely. The part numbers are listed throughout to help you when ordering parts from your local Cobra dealer.

If you don't feel comfortable with the service work, log on to www.cobramoto.com to find a Cobra dealer or Call 517-437-9100.

Engine Service

One method for determining whether the top end of your engine needs rebuilt is to perform a WOT (Wide Open Throttle) kicking compression test. Before performing the procedure please read the caution notes below.

CAUTION:

- There appears to be a wide range of variability in reading compression gauges across the country.
- The head volume of this Cobra Motorcycle is very small and so requires many kicks, around 20, before you establish the most accurate reading possible.
- Because of the geometry of the spark plug used in this Cobra Motorcycle, the adapter used with your compression tester must have a similar volume protruding into the combustion chamber to establish an accurate value.
- Length of hose on the compression tester will affect the reading. The shorter the hose length the more accurate your reading will be.

Because of these difficulties in measuring an *absolute* compression value, a useful *relative* value can be achieved by testing your bike's compression with your own particular gauge after a new top end or when the bike is new so that you know what your particular gauge reads on a 'fresh' engine. When it has dropped to 90% of its original value the engine will be down on power and would benefit from a rebuild. When it's dropped to 80% it really needs rebuilt! Using the table below will help you determine monitor the condition of your top end.

| | Engine is Fresh Measured Value | Engine Down on Power Measured Value * 0.9 | Engine NEEDS Rebuilt Measured Value * 0.8 |
|-------------|-----------------------------------|--|--|
| Example | 110 psi | 110 psi * 0.9 = 99 psi | 110 psi * 0.8 = 88 psi |
| Your Values | | | |

Procedure for Compression Testing

1. Shut off the fuel petcock.
2. Install the compression gauge into the spark plug hole.
3. Hold the throttle to wide open, and kick repeatedly (approximately 20 times) or until the gauge reading does not increase in value with each kick.

Base Gasket Selection

Tools required

- 17mm wrench
- 1mm flexible solder material
- measurement calipers

When rebuilding the 'top end' of your Cobra motorcycle, care must be taken to ensure the proper squish clearance. Squish clearance is defined as the minimum distance between cylinder head and piston at TDC, and there are negative effects of either having too much or too little clearance. Since parts like the crank, connecting rod, cylinder head, piston, and crankcases all have varying tolerances, Cobra offers several different base gasket thicknesses to ensure that you can always set the squish clearance of your engine to factory specifications.

For base gasket replacement use the code (see figure 21 for location) along with the table on the following page reorder the correct thickness gasket.

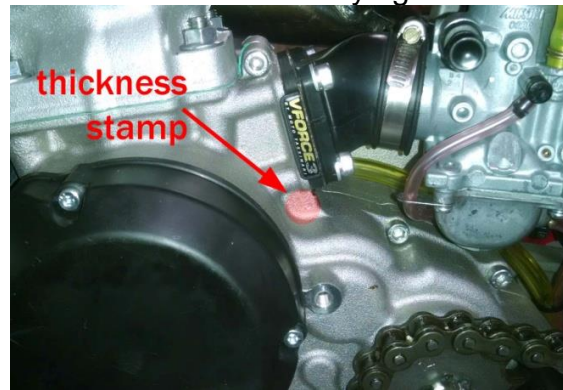


Figure 21

| Supplied Base Gasket Thickness | | Cobra # |
|--------------------------------|--------|----------|
| mm | inch | |
| 0.2 | 0.010 | ZCC60302 |
| 0.3 | 0.0125 | ZCC60303 |
| 0.4 | 0.015 | ZCC60304 |
| 0.5 | 0.020 | ZCC60305 |
| 0.6 | 0.025 | ZCC60306 |
| 0.8 | 0.031 | ZCC60308 |

NOTE: Tolerances will affect the actual gasket thicknesses.

If during the course of the maintenance more parts than the base gasket is changed, the squish clearance should be measured, and possibly a different base gasket will be required.

The easiest way to measure squish clearance is with 1mm to 1.5mm thick flexible solder wire (available through most popular electronic stores). The process is as follows:

- Assemble the top end of the engine with either; 1) the crankcase stamp recommended base gasket or, 2) if assembling with a new set of cases assemble with a 0.4mm (0.015") base gasket, and torque the head nuts to the proper torque specifications leaving off the spark plug and ignition cover (piston rings can be left off to ease assembly).
- Carefully insert the solder wire through the spark plug hole, into the cylinder far enough such that the tip of the wire touches the left or right side cylinder wall (not the front or back as the piston will rock more and give incorrect measurement).
- Hold the wire at this position and rotate the crankshaft, by the flywheel nut (or kick lever) three revolutions to 'smush' the solder wire.

CAUTION:

If you rotate the flywheel nut in a counterclockwise direction, there is a risk of loosening the nut.

- Pull out the wire and measure the solder thickness at the thinnest location near its tip accurately with the thin tips of calipers.
- Adjust base gasket thickness as necessary to get the desired value.

Upon completion, your final assembly squish clearance should agree with the chart below



Power Valve

Operation Verification

To verify that the valve operating correctly perform the following steps

1. Remove the small button head cap screw from the solenoid cover with a 3mm hex key (allen wrench or ball driver)
2. Stick the 3mm hex key or other suitable small diameter tool into the hole and verify that the valve travels outward at approximately 8200 RPM by

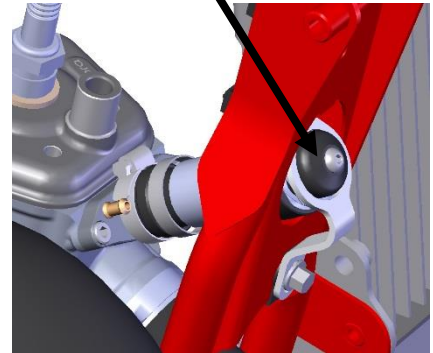
starting the bike and revving the engine while lightly holding the tool in the hole.

Disassemble to remove cylinder

Disassembly

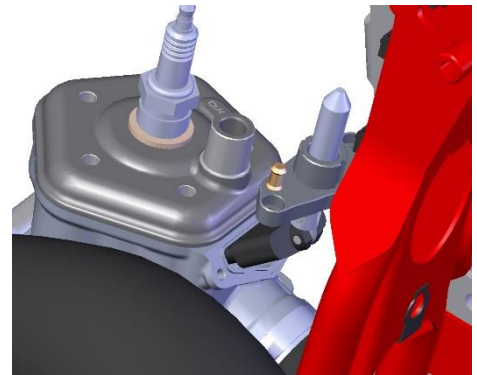
3. Disconnect the electrical connector.
4. Disconnect the vent hose.
5. Remove front fender (optional)
6. Remove solenoid clamp and retaining spring
7. Loosen hose clamp on solenoids rubber boot
8. Remove solenoid assembly through frame
9. Remove the two socket head cap screws holding the PV cover to the engine.
10. Rotate the cover assembly upward and then slide it upward.
11. Remove the return spring.
12. Remove the valve and plunger assembly

ACCESS SCREW



Clean inspect and assembly

1. Clean the components with mineral spirits.
2. The inside of the solenoid can also be cleaned with mineral spirits.
3. Inspect
 - a. The link for cracks.
 - b. excessive slop in the link joints
 - c. The valve for cracks.
 - d. The boot for cracks.
 - e. O-ring for signs of compromise
 - f. The electrical cable for exposed wires or breaks in the protective covering.

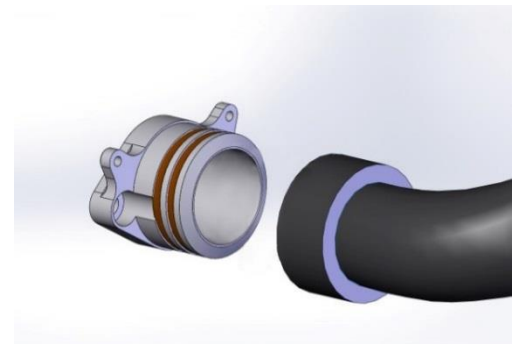


Installation

1. Apply some premix oil to the outside of the valve and install in the cylinder.
2. Hold upward the plunger and slide the valve return spring over it.
3. While still holding upward the plunger and spring slide down over them the solenoid assmebly
4. Install the cover with the two screws.
5. Install the vent hose.

Solenoid Troubleshooting:

- 21 ohm
- 15 volts above ~8200 RPM



Exhaust

The pipe was designed and produced by HGS. The exhaust flange to pipe sealing arrangements is as shown. This seals better and remains in position better during installation. There are two ZCMOTE11 O-rings.

Fuel & Air System

Carburetor:

Tools recommended for carburetor service:

- Small flat head screwdriver
- WD-40
- 6mm socket

Your Cobra is equipped with an adjustable carburetor. Some fine-tuning may be needed according to weather condition and altitude. Proper jetting is **very** important for engine performance and engine life. Serious damage to the engine can occur if not properly adjusted.

IDLE ADJUSTMENT:

On each side of the carburetor, there are two adjustment screws. The right side screw with the knurled head is the idle adjustment screw. To raise the idle, turn the screw in clockwise (in 1/4 turn increments) and rev the engine after each adjustment. To lower the idle, turn the screw counter-clockwise.

TOP END JETTING:

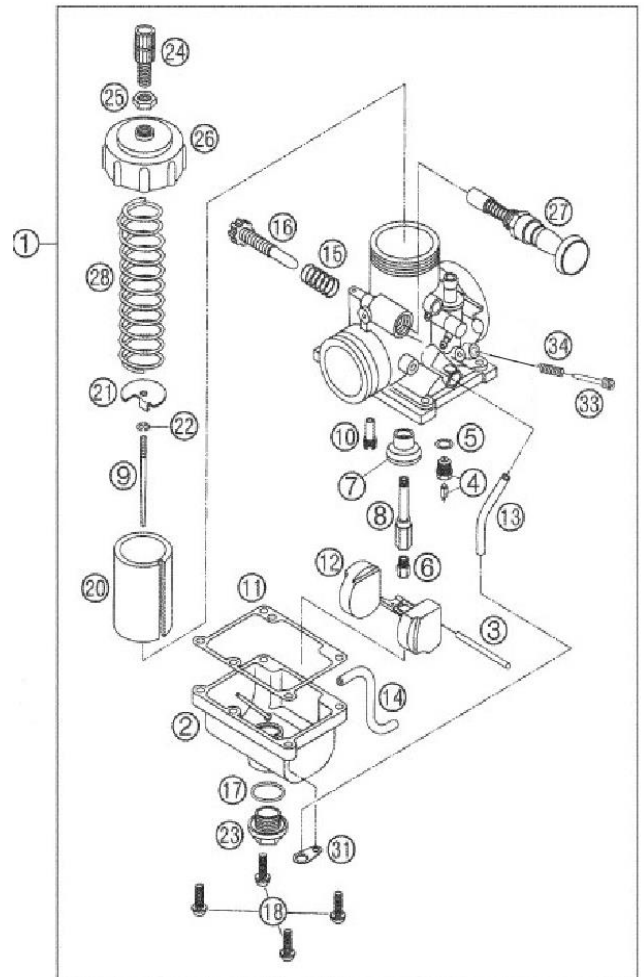
Indications that the engine is running too rich (too much fuel for the air) are:

- Engine not revving out or blubbing at high RPMs.
- Engine will not 'clean out'
- Wet or black spark plug

NOTE: Before changing jetting be sure that the air filter is properly cleaned and has the usual amount of air filter oil. An overly dirty air filter can cause the engine to run rich.

If the engine is running rich on the top end it should be leaned out. Leaning it out can be done by:

1. Changing the main jet to a smaller number.
2. Raising the needle clip (this lowers the jet needle) one notch at a time on the slide.



Indications that the engine is running too lean are:

- Engine cutting out on top end.
- Engine overheating and ultimately seizure.
- White spark plug

CAUTION:

It is much safer to operate the engine slightly rich as opposed to slightly lean. This is because an overly rich engine will just run poorly while an overly lean engine will seize, potentially causing an expensive top end rebuild and a DNF.

To richen the carburetor:

1. Change the main jet one number at a time (larger).
2. Lower the needle clip (raising the jet needle) one notch at a time until the engine starts to blubber on the top end, then move the clip back up one notch or until you get the blubber out.

FUEL MIXTURE SCREW

The left side brass screw is a fuel mixture (air) screw. This screw will also richen and lean your engine more on the bottom and mid-range. In warmer conditions, turn the screw out. In colder conditions, turn the screw in. Be sure to keep the carburetor very clean and make sure you don't have water or dirt in the carburetor bowl. Use automotive carburetor cleaner or WD-40 to clean the carburetor inside and out. Turning the screw in richens the mixture at partial throttle openings. Turning the screw out, leans it.

Cleaning the carburetor:



Clean the carburetor in a well-ventilated area, and take care that there is no spark or flame anywhere near the working area; this includes any appliance with a pilot light. Because of the danger of highly flammable liquids, do not use gasoline or low flash-point solvent to clean the carburetor.

1. Make sure the fuel is shut off.
2. Remove the carburetor.
3. Drain the fuel from the carburetor.
4. Disassemble the carburetor.
5. Immerse all the metal parts in a carburetor cleaning solution.
6. After the parts are cleaned, dry them with compressed air.
7. Blow out the fuel passages with compressed air.
8. Assemble the carburetor
9. Install the carburetor onto the motorcycle.

Rear Shock

The rear shock is fully serviceable but it is recommended that only trained professionals should service your shock. Contact Cobra or another qualified specialist for questions and service of your CX65 shock.

Brakes

Proper Brake adjustment must have a slight amount of freeplay from the pedal/lever to the master cylinder piston. Without freeplay, it is difficult to ensure that piston is not blocking the hydraulic return path which allows fluid to return to the master cylinder upon release of the pedal/lever. If the system does not allow sufficient return flow, the brake system will lock up during operation as the master cylinder pumps fluid to the caliper that is unable to return to the master cylinder as the lever is released.

Rear Brakes

Rear brake bleeding is a 5-step process.

1. Remove the reservoir cap on the master cylinder and top of with DOT 4 or 5.1 fluid. During all these steps, make sure you monitor the fluid level and 'top off' when necessary.
2. Adjust the brake plunger for free play. There must be at least some free play between the adjustable plunger and the master cylinder piston. Push the pedal up and down to feel for free play and adjust if necessary. It may be helpful to remove the rubber boot. Improper adjustment will not allow fluid from the caliper to return to the master cylinder up release of the brake pedal.
3. Pressure bleed the system. Push down once on the brake pedal, solidly and completely, and open and close the caliper bleed, before releasing the pedal. Repeat this step at least 5 times looking for bubbles. Typically, bubbles are seen on the 4th or 5th attempt. If bubbles are seen repeat until no bubbles appear.
4. Minimize the caliper volume. Using channel locking pliers, or similar, squeeze the caliper as shown to push the piston back as far as possible into the caliper. While squeezing, open and close the caliper bleeder looking for bubbles. Repeat at least three times looking for bubbles. If bubbles are seen repeat until not bubbles appear.
5. Overfill the master cylinder to minimize the amount of air in the reservoir before reinstalling the cap. Yes, you will lose some fluid when the cap goes on. Have the rubber in the cap pushed up to minimize its volume.



Front Brakes

Bleeding of the front brakes is similar but step 4 requires the use of a screwdriver to force the pads & pistons back into the caliper.

See the maintenance section at the beginning of this manual for proper brake lever adjustment.

If the adjustment is set properly and the brakes have been properly bled and the system is still not responsive enough, perform the steps below to 'exercise' the pistons and seals.

1. Remove the caliper from the mount.
2. Remove the brake pads from the caliper (remove the clip before removing the bolt).
3. Pump the front brake lever to make the pistons move toward the center of the caliper.
 - a. Likely if the bike has much time, the pistons just move back and forth and do not pump out as they should.
 - b. Our goal here is to free each piston up so that they will pump out
4. Keep pumping the lever until one piston travels ~ 1/8" (3mm) out.
5. Push it back in & repeat several times.
6. Once you have one piston moving freely, clamp, block, or hold it in place so that it forces other pistons to work.
7. After you have all 4 pistons moving easily, reinstall the brake pads and spring.
8. Before installing the caliper back onto the fork leg and wheel, pump the brakes so that the pads will need spread slightly to install over the rotor.
9. Spread the pads just enough so that the caliper will fit over the rotor (If you spread them too far they may not pump up properly).

Front Wheel

Assembly

- Put the wheel in place and install the axle and caps. Torque the caps to 45 Nm (33 ft-lb)
- Place the bike on the ground and 'exercise' the suspension a couple times while applying the front brakes.
- Tighten the four axle pinch bolts to 12 Nm (106 in-lb)

Ignition

To verify if the charging coils for the ignition are good use an ohm meter and two fine point leads (paper clips will work) and measure the resistance across the blue and white wires in the six pin stator connector. The resistance value should be $5\ \Omega \pm .3\ \Omega$.

To verify the coil with an ohm meter.

1. Test for resistance from the metal in the cap to the coil frame. It should be $\sim 10\ \text{k}\Omega$. If not, there may be a broken wire.
2. Test from either of the leads to the connector to the frame ground. It should be infinite. If not, a wire may have shorted to ground.
3. Test the resistance across both leads in the connector should be near $0\ \Omega$. If not, there may be a short or broken wire.

Tuning

Gearing

| Front Sprocket | | | | Rear Sprocket | Gear Ratio |
|----------------|----|----|----|---------------|------------|
| | | 14 | | 42 | 3.00 |
| | | | 15 | 45 | 3.00 |
| | | | 15 | 46 | 3.07 |
| | | 14 | | 43 | 3.07 |
| | 13 | | | 40 | 3.08 |
| 12 | | | | 37 | 3.08 |
| | | | 15 | 47 | 3.13 |
| | | 14 | | 44 | 3.14 |
| | 13 | | | 41 | 3.15 |
| 12 | | | | 38 | 3.17 |
| | | | 15 | 48 | 3.20 |
| | | 14 | | 45 | 3.21 |
| | 13 | | | 42 | 3.23 |
| 12 | | | | 39 | 3.25 |
| | | | 15 | 49 | 3.27 |
| | | 14 | | 46 | 3.29 |
| | 13 | | | 43 | 3.31 |
| 12 | | | | 40 | 3.33 |
| | | | 15 | 50 | 3.33 |
| | | 14 | | 47 | 3.36 |
| | 13 | | | 44 | 3.38 |
| | | | 15 | 51 | 3.40 |
| 12 | | | | 41 | 3.42 |
| | | 14 | | 48 | 3.43 |
| | 13 | | | 45 | 3.46 |
| | | | 15 | 52 | 3.47 |
| 12 | | | | 42 | 3.50 |
| | | 14 | | 49 | 3.50 |
| | | | 15 | 53 | 3.53 |
| | 13 | | | 46 | 3.54 |
| | | 14 | | 50 | 3.57 |
| 12 | | | | 43 | 3.58 |
| | | | 15 | 54 | 3.60 |
| | 13 | | | 47 | 3.62 |
| | | 14 | | 51 | 3.64 |
| 12 | | | | 44 | 3.67 |
| | | | 15 | 55 | 3.67 |

Suspension

Adjustment:

1. Front forks
 - 1.1. Fork oil
 - 1.1.1. Oil type
 - 1.1.1.1. Heavier weight oil – more damping – slower responding
 - 1.1.1.2. Lighter weight oil – less damping – quicker responding
 - 1.1.2. Oil quantity / level
 - 1.1.2.1. Greater quantity / higher level – greater bottoming resistance, stiffer near the end of the travel.
 - 1.1.2.2. Smaller quantity / lower level – less bottoming resistance, less stiff near the end of the travel.
 - 1.2. Fork spring
 - 1.2.1. Stiffer spring (higher spring rate) – stiffer throughout the travel.
 - 1.2.2. Less stiff spring (lower spring rate) – less stiff throughout the travel.
 - 1.3. Gas pressure – always bleed off any pressure.
 - 1.4. Fork height
 - 1.4.1. Rise in clamps for quicker turning.
 - 1.4.2. Lower in clamps for improved straight line stability.
2. Rear shock
 - 2.1. Preload adjustment
 - 2.1.1. More preload (greater distance) – less race sag.
 - 2.1.2. Less preload (smaller distance) – more race sag.
 - 2.2. Shock spring
 - 2.2.1. Stiffer spring – stiffer throughout the travel.
 - 2.2.2. Less stiff spring – less stiff throughout the travel.
 - 2.3. Compression damping
 - 2.3.1. Harder (more damping, slower) – adds resistance to the suspension motion when the suspension is compressing.
 - 2.3.2. Softer (less damping, quicker) – reduces resistance to the suspension motion when the suspension is compressing.
 - 2.4. Rebound damping
 - 2.4.1. Harder (more damping, slower) – adds resistance to the suspension motion when the suspension is returning to full length.
 - 2.4.2. Softer (less damping, quicker) - reduces resistance to the suspension motion when the suspension is returning to full length

Front Fork Operation

The front suspension on the CX65 works under the principals of hydraulic damping, and it features full adjustability to help tune the fork to meet each rider's needs. The CARD fork contains MXT 'Smart Leg' technology that provides very progressive operation; allowing a small bike to perform well on track surfaces ripped up by larger machines.

The key to Smart Leg technology is to understand that each leg has a different role. The brake side leg features a conventional open cartridge. This cartridge

handles both standard compression and rebound damping duties. Rebound damping is adjustable on the fork cap, and compression damping is adjusted at the bottom of the fork. The other leg (the Smart Leg) has no rebound damping, and it contains both a speed sensitive compression damping mechanism as well as a position sensitive one. This design allows for a firm low speed response, controlling rapid chassis pitch, which promotes stability and control. The fork produces significantly less mid and high-speed compression until it travels into the progressive / speed sensitive portion of the smart leg. The speed sensitive compression component is adjustable at the top of the fork.

The combination of the Smart Leg and the conventional leg allows the fork to be very supple throughout all low amplitude operation and yet take punishing hits; producing a progressively increasing damping rate that slows the forks movement as it approaches full bottom. Therefore, the Smart Leg also acts as a hydraulic bottoming control device. Finally, the large degree of adjustability in both legs allows the fork to be tuned to meet each rider's size, ability, and type of riding they do (motocross, off-road, flat track, etc).

Fork Damping Adjustments

Tools required

- Small flat blade screwdriver



REBOUND ADJUSTMENT

At the base of the conventional leg is adjustment screw that controls the compression damping. Turning this clockwise increases damping and counter-clockwise will decrease it. illustrated by the "HARD" and the figure at the right.

The speed at which the fork rebounds can be adjusted at the top of the conventional leg. Turning the adjustment screw clockwise slows the rate at which the fork extends after being compressed, and likewise, turning the screw counter-clockwise returns the leg to its extended position faster. As shown in the figure, 'S' (slower) and 'F' (faster) are etched into the cap as an adjustment guide.



COMPRESSION ADJUSTMENT

another amount of screw turning it. This is "SOFT" in



The Smart Leg cap is labeled “Speed Sensitive Bottoming Control”, and this adjuster provides a range of control over how progressive the fork feels. Turning the screw clockwise increases the fork’s resistance to bottoming, while turning the screw counter-clockwise decreases it. On the track, this effect will be felt on sections where the fork is forced to move very quickly such as on harsh landings or when traversing sharp edged bumps.

Rear Shock Adjustments

Always start with standard settings and make damping changes in no more than two click increments and only make one change at a time.

| Symptom | Action |
|--|---|
| Rear end feels stiff on small bumps | Softer Low Speed Compression Damping |
| Rear end ‘sways’ on straights | Harder Low Speed Compression Damping |
| Bike tends to jump ‘rear end high’ | Harder High Speed Compression |
| Bike tends to jump ‘rear end low’ | Softer High Speed Compression |
| Frequent rear end bottoming | Harder Compression Damping |
| Bottoms after end of continuous bumps | Softer rebound damping |
| Rear end ‘kicks’ over square edge bumps | 1) Harder rebound, 2) Softer Low and High Speed Compression |
| Rear end feels stiff under acceleration bumps. | Softer Rebound and/or Stiffer Low Speed Compression Damping |

Proactive Suspension Adjustments

Once you have the suspension adjusted for decent overall feel, you can make proactive adjustments when faced with different racing conditions.

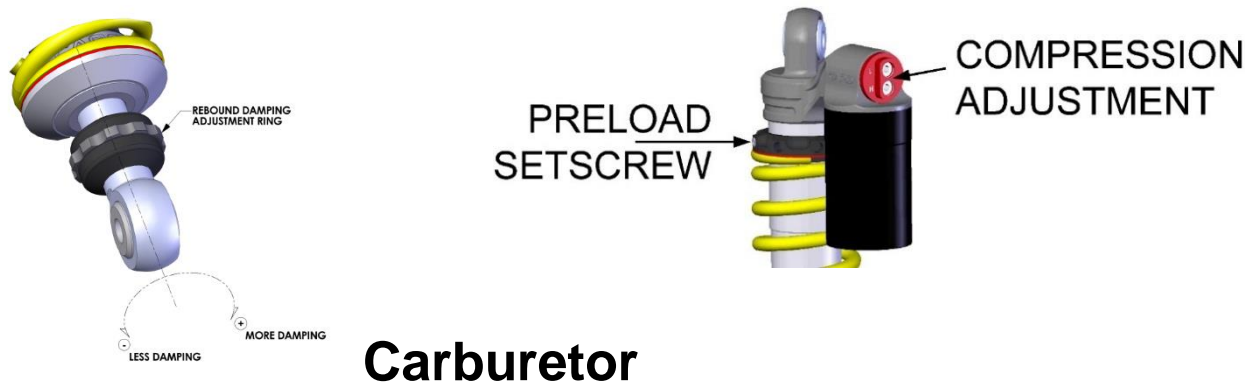
| Situation | Actions |
|------------------|---|
| Sand track | Lower the rear end (increase race sag). |
| Sand track | Stiffer compression and rebound damping. |
| Long fast track | Lower the forks in the clamps by 3 mm. |
| Tight slow track | Raise the forks in the clamps by 3 mm. |
| Mud track | Lower the bike if the rider has difficulties touching the ground. |

Shock preload

Loosen the set screw and turn the spring perch in full turn increments to get the desired sag settings.

NOTE: Always leave the spring perch rotated in such position so that the set screw is easily accessible.

Shock Damping



Carburetor

Although your Cobra is sent from the factory with the carburetor jetted for optimal performance, you may find it necessary to adjustment your particular jetting due to current weather conditions, altitude, fuel variations, and/or engine modifications.

CAUTION:

Proper jetting is very important for engine performance and engine life. Symptoms of improper jetting are listed below.

- Symptoms of incorrect oil or oil / fuel ratio
 - Poor acceleration
 - Misfire at low engine speeds
 - Excessive smoke
 - Spark plug fouling
 - Excessive black oil dripping from exhaust system
- Symptoms of too rich a fuel mixture
 - Poor acceleration
 - Engine will not 'rev' out, blubbers on top
 - Misfire at low engine speeds
 - Excessive smoke
 - Spark plug fouling
 - Wet, black, or overly dark spark plug (when removed for inspection)
- Symptoms of too lean a fuel mixture
 - Pinging or rattling
 - Erratic acceleration
 - Same actions as running out of fuel
 - High engine temperature
 - White spark plug (when removed for inspection)

NOTE: When inspecting the spark plug to evaluate jetting, a properly jetted machine will produce a spark plug that is dry and light tan in color.

| Environmental and altitude related mixture adjustments | | |
|--|-----------------|---------------------|
| Condition | Mixture will be | Required adjustment |
| Cold air | Leaner | Richer |
| Warm air | Richer | Leaner |
| Dry air | Leaner | Richer |
| Very humid air | Richer | Leaner |
| Low altitude | Standard | None |
| High altitude | Richer | Leaner |
| Low barometric pressure | Richer | Leaner |
| High barometric pressure | Leaner | Richer |

NOTE: Before making any carburetor jetting changes verify that:

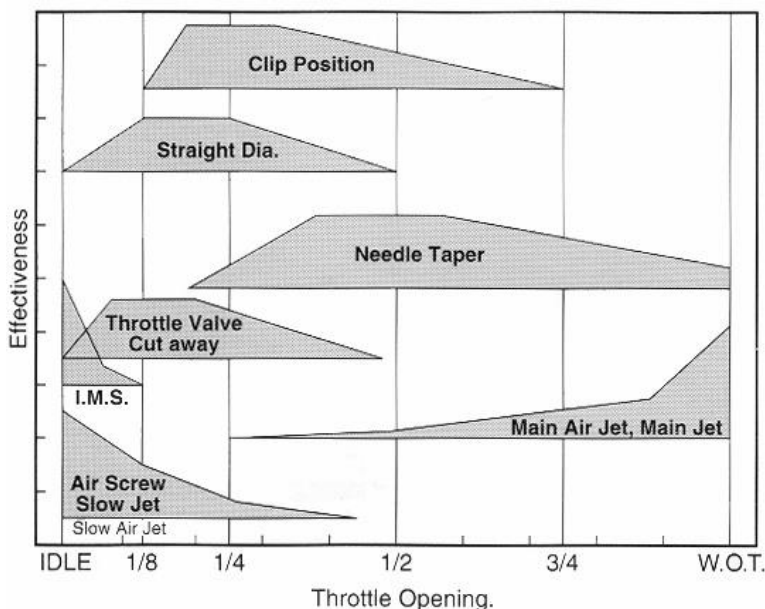
- You are using the proper fuel and oil
- The fuel is fresh and uncontaminated
- The oil and fuel have been mixed in the proper ratio
- The carburetor is clean (no plugged jets)
- The air filter is properly clean and oiled
- The float height is within proper specification (proper measuring technique is described later in this section)

NOTE: Perform all jetting changes on a motorcycle that has been warmed up to proper operating temperature.

The carburetor on your Cobra motorcycle is quite adjustable. Figure 49 shows its range of adjustment and in particular what adjustable component affects what range of operation (specifically throttle position).

FUEL SCREW ADJUSTMENT: Adjust for throttle response

The air adjustment screw is located on the left side of the carburetor. It requires the use of a small flat blade screw driver for adjustment. After adjusting for proper throttle response, use the idle screw to adjust the desired idle speed.



NOTE: If the air screw requires more than 3 turns out, replace the pilot jet for one that is one size leaner (smaller number) then readjust the fuel screw.

IDLE ADJUSTMENT:

Adjust for desired idle speed

The idle speed screw is located on the right side of the carburetor. It is hidden behind the exhaust stinger pipe and is barely reachable with a screwdriver. To raise the idle, turn the screw in, clockwise, (in 1/4 turn increments) and rev the engine after each adjustment. To lower the idle, turn the screw counter-clockwise.

TOP END JETTING:**Adjust for clean full throttle acceleration**

Jet your top end (main jet) based on the acceleration of your Cobra Motorcycle on the longest straight at the track. Observe any of the lean or rich symptoms (spark plug appearance and bike performance) listed above and change your jetting accordingly.

PART THROTTLE**Adjust for desired acceleration**

Using an area of the track that allows the rider to operate at mid throttle, transition (accelerate, or 'roll on') from closed, or mostly closed throttle, to a larger throttle opening. Observe the rich and lean symptoms listed above. Adjust the jet needle position by moving the clip from its current position (move the clip higher on the needle to make the bike run leaner, or move the clip lower on the needle to make the bike run richer) to one higher or lower.

Troubleshooting

1) Engine operates erratically

- a) Carburetor top is installed backwards
- b) The carburetor slide indexing pin is missing
- c) A carburetor vent elbow is plugged or has fallen out
- d) Faulty stator
- e) An air leak
 - i) Base gasket
 - ii) Intake / reed gaskets
 - iii) Crank seals
 - iv) Crank case gasket

2) Engine is down on power

- a) Jetting is incorrect
- b) Silencer needs repacked
- c) Exhaust pipe
 - i) Has excess carbon buildup
 - ii) Has large dent in it
- d) Compression is low
 - i) Piston
 - ii) Rings
- e) Reeds are damaged

- f) Ignition timing is incorrect
- g) Stator needs replaced

3) Engine is excessively loud

- a) Silencer needs repacking

4) Engine 'blubbers' at high RPMs

- a) Jetting too rich
- b) Stator needs replaced

5) Engine won't start

- a) Fuel
 - i) None in tank
 - ii) Is sour or bad
- b) Carburetor is dirty
- c) Ignition
 - i) Spark plug fouled
 - ii) Spark plug cap off
 - iii) Engine Shut-off 'kill' switch is shorted
 - iv) Bad electrical ground
 - v) Stator winding damaged
- d) Exhaust is plugged with object or flooded fuel
- e) Engine is flooded
- f) Cracked, broken, or jammed reed pedal
- g) Excessive piston or cylinder wear
- h) Clutch bolt or shoe dragging on basket (drum).

6) Engine won't idle

- a) Idle knob needs adjusted
- b) Carburetor jets are dirty
- c) Choke is stuck on
- d) Air leak