

# *Apache* RTR 180

## SERVICE INFORMATION MANUAL



**All information included in this publication is based on the latest product information available at the time of printing.**

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**1. GENERAL INFORMATION**

**SPECIAL FEATURES - TUBELESS TYRES**

RTR 180 is the first vehicle from the house of TVS Motor Company with tubeless tyres on both front and rear wheels. The tubeless tyre does not have any inner tube. Only the tubeless tyre is mounted on the rim. The inner layer of the tyre (inner liner) acts as a tube. The valve is directly fixed on to the rim with proper sealing. The wheel rim and tyre once assembled properly become air tight.

**ADVANTAGE OF TUBELESS TYRES**

1. Lower rolling resistance due to absense of tube, Uniform air retention and hence better dynamic stability.
2. More safe for high speed blowout incase of a Puncture or tube bursting.
3. The puncture repairing time is very less as compared to conventional tyre and tube.

**For details on puncture repairing procedure and Servicing of valve etc., refer "Chassis chapter" page No. 6to 7of this manual.**



**SPECIAL FEATURE - DETACHABLE FLAP REAR FENDER**

Apache RTR 180 has removable type flap rear fender as a feature. Customers who like a sporty rear end lookl can remove the flap rear fender (mud flap rear) from the rear fender assembly. The flap rear fender can be assembled back during rains or whenever required.

The Flap rear fender will be sent separately in a carton box like vehicle mirrors from factory warehouse. The same has to be fixed at the timePDI / Installation based on customer's choice. If the customer chooses not to fix Flap rear fender at the time of vehicle delivery, the Flap rear fender along with mounting bolts has to be handedover to customers as a part of vehicle.

**For details on removal and re-assembly of Flap rear fender, refer "Chassis chapter" page No. 8 of this manual.**

**Rear fender covered with Flap**



**Rear fender without Flap**

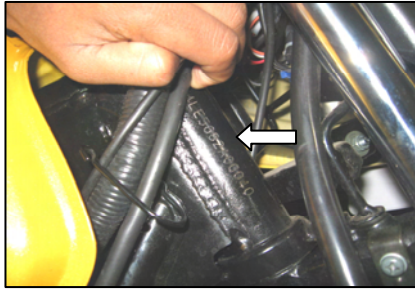


1. GENERAL INFORMATION	
TECHNICAL SPECIFICATIONS	
<b>DIMENSIONS AND WEIGHT</b>	
Overall length	2085 mm
Overall width	730 mm
Overall Height	1105 mm
Seat height	790 mm
Ground clearance	165 mm
Wheel base	1326 mm
Kerb weight	137 kg with toolkit and 90% of fuel
Pay load	130 Kg
Gross vehicle weight	266 Kg
<b>ENGINE</b>	
Type	4 stroke, air cooled, single cylinder OHC
Bore	62.5 mm
Stroke	57.8 mm
Piston displacement	177.4 cc
No.of valves	2
Carburettor type	UCAL Mikuni BS-29
Air filter	Double polyurethane foam filter element
Oil filter	Wire mesh and micronic paper filter
Lubrication system	Forced wet sump
Compression ratio	9.5 : 1
Maximum power in kW	12.52 (17 bhp) @ 8500 rpm
Maximum torque	15.5 Nm @ 6500 rpm
Maximum speed	124 km / hr
Engine idling rpm	1400 ± 100 rpm
Starting system	Kick starter / Electric starter
<b>TRANSMISSION</b>	
Clutch system	Wet - multiplate type
Gear shift pattern	1 down and 4 up
Primary transmission	Helical gears
Secondary transmission	Chain and sprockets
<b>GEAR RATIO</b>	
First gear	2.917
Second gear	1.857
Third gear	1.333
Fourth gear	1.050
Fifth gear	0.880
Primary reduction	3.095
Secondary reduction	3.286
<b>CHASSIS</b>	
Frame type	Double cradle Synchro STIFF
Front suspension	Telescopic oil damped

1. GENERAL INFORMATION	
Rear suspension	Monotube inverted gas filled 5 step adjustable shocks with rectangular swing arm
Steering angle	41°
Caster angle	25.5°
Trail length	84.3 mm
Turning radius	2150 mm
Brakes	
Front	Hand operated, 270 mm petal disc
Rear	Foot operated, 200 mm petal disc
Tyre size	
Front	90 / 90 x 17 Tubeless
Rear	110 / 80 x 17 Tubeless
Tyre pressure	
Solo Front	1.75 kg/cm <sup>2</sup> (25 PSI)
Rear	2.00 kg/cm <sup>2</sup> (28 PSI)
Dual Front	1.75 kg/cm <sup>2</sup> (25 PSI)
Rear	2.25 kg/cm <sup>2</sup> (32 PSI)
<b>ELECTRICAL</b>	
Type	AC generator
Ignition system	IDI - Dual mode digital ignition
Sparkplug	BOSCH UR5DDC - twin electrode
Battery type	12V 9 Ah
Body earthing	Negative
Generator	Fly wheel magneto 12V 100W
Head lamp	Halogen HS 12V 35/35W
Position lamp	12V 4W x 2
Tail lamp / Brake lamp	LED indicators ( 0.5W / 3.5W )
Turn signal lamp	12V 10W X 4
Number plate lamp	12V 4W X 1
Instrument panel	LCD / LED indicators
Horn type	12V DC x 2
Fuse	12V 10A x 1
<b>CAPACITIES</b>	
Fuel tank including reserve	16 litres
Reserve	2.5 litres
Front fork oil (grade)	IOC teleshockab oil
Front fork oil (qty)	140 ± 2.5 ml
Engine cum transmission oil (grade)	4T oil
Engine cum transmission oil (qty)	
After draining	1000 ml
After disassembly	1100 ml
Note : 1. Specifications are subject to change on account of continuous improvements in the product. 2. For details on exclusive parts and part numbers, refer page No        of this manual.	

**1. GENERAL INFORMATION**

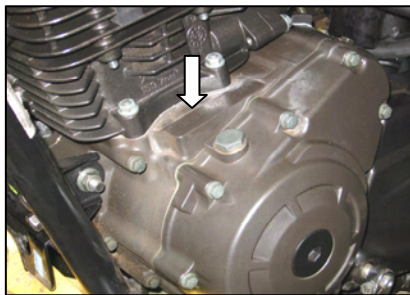
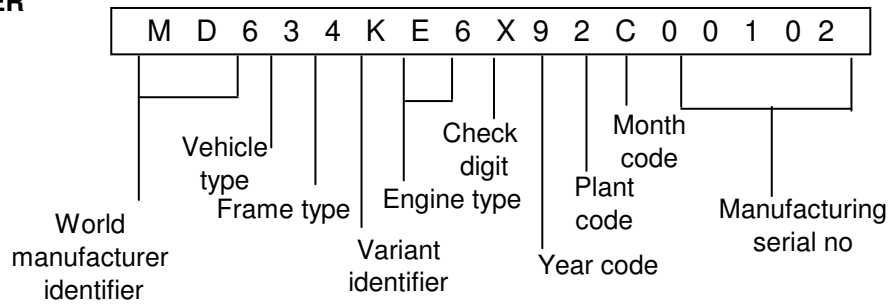
**VEHICLE IDENTIFICATION NUMBERS**



**FRAME NUMBER**

1. The frame serial number is engraved on the frame at right side of the steering head pipe (Location same as Apache RTR)
2. Variant identifier code is same as Apace RTR MD634KE

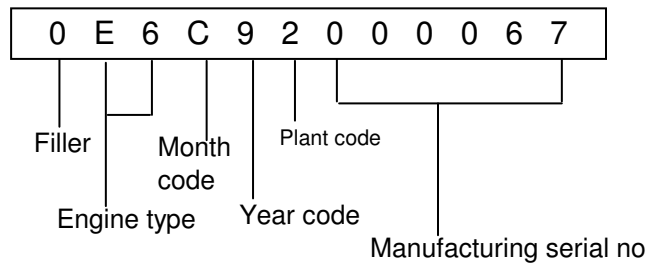
**FRAME NUMBER**



**ENGINE NUMBER**

1. The Engine serial number is engraved on the left side crankcase near cylinder block (Location same as Apache RTR)
2. Engine type code of engine number is changed to 0E6
  - 0E3 - Apache 150 cc
  - 0E4 - Apache RTR 160 cc
  - 0E5 - RTR EFi 160 cc
  - 0E6 - Apache RTR 180 cc

**ENGINE NUMBER**



**Note:**

There is no exclusive special tool required for servicing of TVS Apache RTR 180. The list of special tools as applicable for RTR 160 remains same for RTR 180also. For detailed procedures and instructions on the following, refer Apache Service Manual SER.MAN / APACHE 01 / Revision 0, August 2006.

(Page No. 1-8 to 1-10)

1. Running -in period
2. Fuel and oil recommendations
3. Precautions and general instructions
4. List of hand tools and special tools

## 2. PERIODIC MAINTENANCE AND TUNE-UP PROCEDURE

### Periodic Maintenance

For a trouble free performance of the vehicle and its longer life, the vehicle should be periodically inspected for wear of components, carbon deposits, stretched cables, etc. The worn-out components have to be replaced or repaired and necessary adjustments to be made for certain items for consistent performance of the vehicle.

**Note:**

More frequent maintenance checks may be performed on vehicles that are used in severe conditions like dusty environment, dense traffic conditions, sustained full throttle operation and un-metalled roads.

**For detailed Periodic maintenance and tune-up procedure on the following, refer Apache service manual SER.MAN / APACHE 01 - Revision 0, August 2006 (Page No. 2-4 to 2-35) and SIBs sent there after.**

1. Cleaning of Air cleaner assembly
2. Replacement of Hose fuel
3. Cup Fuel Strainer
4. Engine cum transmission oil level check
5. Filter complete engine oil replacement
6. Compression pressure check, Decarbonising of Head complete cylinder, Piston, Piston rings, Valve, Valve guide and Valve seat.
7. Setting of tappet clearance & Spark plug cleaning
8. Battery assembly
9. Head lamp beam adjustment
10. Cable free play adjustment - Throttle cable, Choke cable, Clutch cable
11. Front & Rear brake - Inspection of brake pads and brake fluid level, air bleeding from brake system and brake fluid replacement, Inspection of hose complete brake
12. Wheel assembly front & rear
13. Inspection and adjustment of chain
14. Inspection of tyres and tyre pressure
15. Inspection of bolts & nuts
16. Lubrication points

For maintenance schedule and procedure for engine oil replacement, servicing of 'O' ring chain assembly, steering adjustment and fork oil replacement, refer Apache RTR Service information manual **SER INF. MAN / APACHE RTR - Revision 0, June 2007** (Page No: 4 to 7) and **SER INF. MAN / APACHE RTR - Revision 1, March 2008 (Page No: 3)** in addition to Apache Service manual **SER.MAN/APACHE 01 - Revision 0, August 2006 (Page No : 2-4 to 2-35)**

## 3. SERVICING OF ENGINE

### ENGINE OVERHAUL

Before starting the engine overhaul, observe some of the engine conditions to familiarizes,

- › Cleaning
- › Compression pressure
- › Any abnormal noise
- › Oil leak, seepage if any

To overhaul the gears, shaft comp. Counter shaft comp. Drive, kick starter and crank shaft assembly, the crank case need to be separated.

While some of the engine parts are different from that of Apache RTR 160cc due to change in engine capacity to 180 cc, the procedure for servicing the complete engine assembly as explained in Apache service manual ref **SER.MAN / APACHE 02 - REVISION 0 February 2007 (Page No 1-1 to 1-56)** and Apache RTR service information manual **SER INF. MAN / APACHE RTR - Revision 0, June 2007 ( Page No: 7 to 8)**

**For details on changes in Engine parts refer "Parts change details" chapter, Page No. 12 to 14 of this manual**

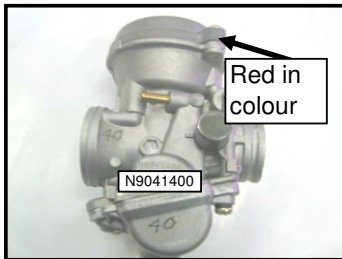
**4. FUEL LUBRICATION AND EXHAUST SYSTEM**

**FUEL TANK COMPLETE AND FUEL COCK ASSEMBLY**



1. Except the fuel tank graphics, the mounting of fuel tank, fuel cock assembly, fuel tank capacity and tank cover are same as that of Apache RTR refresh 160 cc.
2. For more details on removal, cleaning and re-assembly procedure refer Apache service Manual SER.MAN/APACHE 01 / Revision 0, August 2006. (Page 3-1 and 3-2) and SER.INF.MAN / APACHE RTR - Revision 1 (Page No 9)

**CARBURETTOR ASSEMBLY**



1. Carburettor removal and assembly procedure is same as Apache & Apache RTR 160 cc. For more details on servicing of the carburettor refer Apache service manuals SER.MAN / APACHE 01 / Revision 0, August 2006.(Page No3-1 to 3-10)
2. Carburettor assembly and child parts are different from Apache RTR 160 cc. Specifications and part nos. of child parts are given below
3. Carburettor assembly can be identified by its part no. engraved on the carburettor and by Red colour cover diaphragm.

**Carburettor specifications**

Carburettor type	UCAL MICUNI BS 29
Main jet	125
Needle jet	P-0
Jet needle	4DHL42
E-ring position	2 nd from TOP
Pilot jet	20
MCS screw	3 ± 2
Idling RPM	1400 ± 100 rpm
Idling CO (with SAI)	2 ~ 3%

**Part Numbers of Exclusive Child parts of carburettor**

Carburettor assembly	N9041400
Ring jet needle	N9322960
Jet needle	N9322870
Piston valve	N9322880
Mixture control screw (MCS)	N9322940
Needle jet	N9322890
Jet holder	N9322900
Main jet	N9322910
Pilot jet	N9322920
Needle alve assembly	N9322950
Float body assembly	N9322930
Cover diaphragm	N9323320

**Note :** Part nos for remaining child parts of carburettor are same as Apache RTR 160 cc and refer Parts catalogue ref. MCY4S10007

**EXHAUST SYSTEM**

1. Muffler assembly is different from that Apache (RTR 160 cc) though the mountings are similar. The change is primarily due to increased exhaust tube diameter to suit 180 cc engine assembly.
2. An air reservoir provided in the SAI outlet pipe circuit for better emission performance. refer Exclusive part chapter page No .... of this manual. For more details refer Apache service manual SER.MAN/APACHE 01 / Revision 0, August 2006 (Page No 3-11 to3-15)

**5. ELECTRICAL SYSTEM**

The electrical system is same as that of Apache RTR 160 excepting the Dial colour change in Speedo meter and TCI Unit (due to change in ignition timing for 180 cc engine). For more details on electrical system refer Apache service manual SER.MAN/APACHE 01 Revision 0, August 2006 (Page No 4- 1 to 4- 23 ) and RTR Service Information Manual ref SER INF. MAN / APACHE RTR - Revision 1, March 2008 (Page No: 10 to 14)

**6. CHASSIS**

Procedure for servicing of Front wheel assembly, Front Disc brake system, Front fork assembly, lower bracket and swing arm complete are similar to that of Apache 150cc as explained in chassis of Apache service manual **SER.MAN/APACHE 02 - Revision 0, February 2007** (Page No. 2-1 to 2-37) and Fork assembly front, Lower bracket comp. (Steering stem) and Handle bar assembly are same as that of Apache RTR 160cc as explained in Chassis chapter of Apache RTR Service information manual **SER.INF.APACHE RTR - Revision 0, June 2007** (Page No : 15 to 17) and Wheel assembly rear, Rear disc brake system are same as that of Apache RTR Fi 160 as explained in chassis chapter of Apache RTR Fi 160service information manual **SER INF / APACHE RTR - Revision 2 November 2008** (Page No. 33 to 35 ).

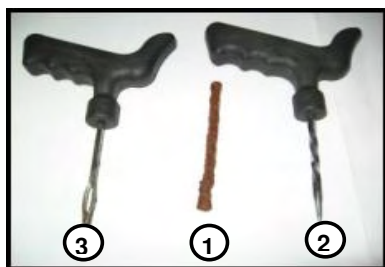
The following exclusive changes pertaining to RTR 180 cc have been explained below.

1. Puncture repairing procedure for tubeless tyres.
2. Servicing of tubeless tyre
3. Removal and re-assembly of Flap rear fender

**PUNCTURE REPAIRING PROCEDURE - TUBELESS TYRES**

Unlike the normal tyre / tube vehicles, to repair a puncture in a Tubeless tyre, the tyre need not be removed from the wheel rim. To repair the puncture externally, a separate Puncture repair kit (Tubeless tyre) is available in the market. The Puncture repair kit and the procedure to use the kit is also explained below.

The dealers can buy a sample of this kit from the local market and demonstrate / explain to the customers at the time of installation during vehicle delivery so that the customers are well aware of handling the situation.



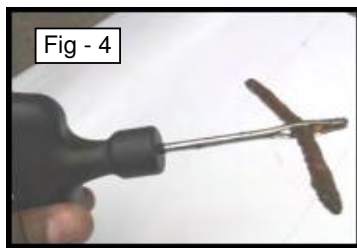
The puncture repair kit consists of

1. Cold-mending rubber strip.
2. Reamer
3. Strip inserting tool



**Step 1:**  
Identify and mark the damaged portion (Punctured location) of the tyre. (Ref fig - 1)

**Step 2:**  
Pull out the nail /Puncture object with the help of plier. (Ref fig - 2)



**Step 3:**  
Insert the reaming tool and carefully ream the Puncture hole / location at the marked area (Ref fig - 3)

**Step 4:**  
Take the cold-mending strip and insert it in the slot provided in the Strip inserting tool (Ref fig - 4).

**6. CHASSIS**



**Step 5:**  
Insert the Strip inserting tool in to the marked hole till the strip goes atleast more than half of its folded length (Ref fig - 5).

**Step 6:**  
After inserting the strip, gently pull out the strip inserting tool, holding the strip in the tyre itself (Ref fig - 6)



**Step 7:**  
Take out the tool completely and then cut the remaining strip leaving 5 mm from the surface of the tyre. (Ref fig - 7 & 8).

**Step 8 :** Fill the air to the specification and check for any leakage by pouring some drops of water and observing for water bubbles.  
If leakage persists, then the selaing is not proper. Remove the Strip and with the fresh strip once again repeat the above steps.

**Note :**

The Kit will have multiple rubber strips as it can be used for more occurance of the puncture. Once the kit is bought, only the strips alone need to be replenished subsequently. The Strips are also available separately without the reamer and Inserting tool.

**REMOVAL AND ASSEMBLY OF TUBELESS TYRES**

To remove the tyre from the wheel rim, first remove the wheel assembly. After removing the wheel assembly from the vehicle, deflate the tyre. Then careful removal of tubeless tyre is necessary using a tyre demounting machine to remove the tyre from the wheel rim. Re-assembly of the tyre also must be done in similar way using the tyre de-mounting machine. In general most of four wheeler servicing shops are having this facility. Customers need to be explained / guided during the installation process at the time of vehicle delivery on this. **They actually need not remove the tyre from the rim for repairing a puncture.**

**CAUTION:**

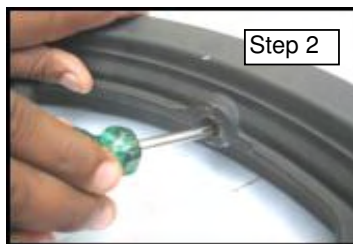
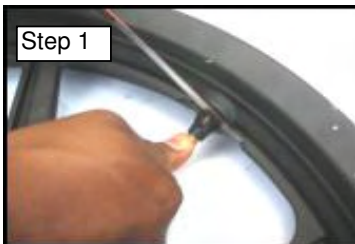
Use of any levers as being used for removing normal tyre in the puncture shop in general may cause severe damage to the tyre seating area / rim and will result in improper sealing and loss of air, which can only be corrected by either replacing the tyre or rim or both as the need arise. While re-assembling the tyre, it is recommended to apply little amount of soap solution over the rim at the tyre seating area for ease of assembly.

**SERVICING OF VALVE TUBELESS TYRE**



Valve in a tubeless tyre can be replaced and the procedure for servicing the valve incase of any damage or leakage is given below.

Remove the wheel assembly from the vehicle.  
Remove the tyre from wheel assembly as explained above



**Step :1**  
Cut the valve tubless tyre just near to the rim using a knife

**Step 2:**  
Push out the bottom portion of valve from the rim using a suitable tool.

**6. CHASSIS**



**Step 3:**  
Locate and seat the new valve tubeless tyre at rim valve hole from the other side of the rim.

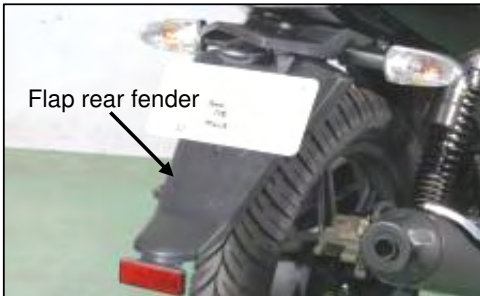
**Step 4:**  
Insert a suitable mandrel type tool and gently tap to ensure proper seating of the valve

**REMOVAL AND ASSEMBLY OF TUBELESS TYRES**

Incase of tyre removal from the wheel rim, remove the wheel assembly as like Apache RTR. After removing the wheel assembly from the vehicle, careful removal of tubeless tyre is necessary using a tyre demounting machine to remove the tyre from the wheel rim. Use of levers used for removing normal tyre in the puncture shop may cause damage to the rim and will result in improper sealing and loss of air.

**REMOVAL AND REASSEMBLY OF FLAP REAR FENDER**

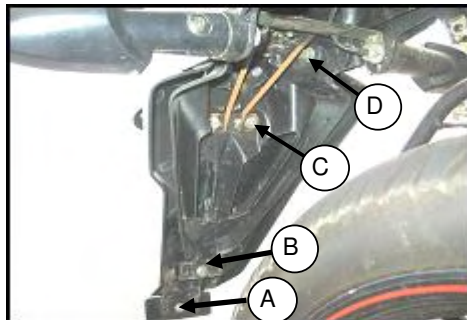
**Rear fender with Flap**



**Rear fender without Flap**



Follow the steps below for removal and re-assembly of Flap Rear Fender

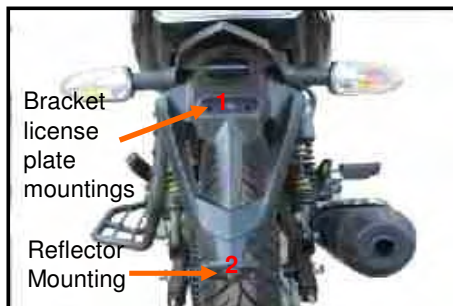


**Step 1:**  
Loosen and remove 1 no. of reflector mounting nut (A) from the flap rear fender using 8 mm spanner.

**Step 2:**  
Loosen and remove 1 no. of CRR pan head screw (B) from flap rear fender bottom mounding using a phillips screw driver.

**Step 3:**  
Loosen and remove 2 nos. of bracket license plate mounting nuts (C) using a 10 mm spanner and remove the bracket along with the Licence plate. **(Do not separate the Licence plate from its bracket)**

**Step 4:**  
Finally loosen and remove 2 nos. of Hex. head bolts (D) from flap rear fender top mounting using a 10 mm spanner and remove the Flap.



**Step 5 :**  
Now assemble the bracket license plate along with license plate and reflector on rear fender at the respective locations of the rear fender (Marked 1 & 2)

To reassemble the Flap rear fender, first remove the bracket license plate and reflector. from the rear fender. The locate the flap rear fender over the rear fender matching the mounting locations (Refer A,B,C,D in fig.) and tighten the bolts, screws and nuts as applicable.

**7. SERVICE INFORMATION**

**VALVE & VALVE GUIDE** Unit : mm

S.No	Description		Standard	Service limit
1	Valve clearance	Inlet	0.06	0.08
		Exhaust	0.08	0.10

**CYLINDER, PISTON & RINGS PISTON** Unit : mm

S.No	Description		Standard	Service limit
1	Cylinder to piston clearance		0.020 - 0.025	0.120
2	Cylinder bore diameter		62.500 - 62.515	62.610
3	Piston dia (measure 10mm from skir end)		62.475 - 62.490	62.380 - 62.395
4	Cylinder distortion			0.05
5	Ring piston closed end gap	Top	0.200 - 0.350	0.7
		2 nd	0.350 - 0500	0.7
6	Ring groove clearance	Top	0.015 - 0.045	0.12
		2 nd	0.015 - 0.045	0.10
7	Ring piston - groove width	Top	0.8005 - 0.820	—
		2 nd	0.8005 - 0.820	—
8	Ring thickness	Top	0.775 - 0.790	—
		2 nd	0.775 - 0.790	—

**CLUTCH** Unit : mm

S.No	Description		Standard	Service limit
1	Lever clutch free play at lever end (in cold condition of engine)		5 -10	15
2	Plate clutch drive claw width		15.750 - 15.850	15.3
3	Spring clutch free length		29.5	28.8

**8. FREE / PAY SERVICES & WARRANTY**

**Free & Pay service schedules, Free service re-imbusement charges, Warranty terms and conditions and warranty labour charges are same as that of Apache 150 cc / RTR 160 cc.**

**9. PRE - DELIVERY INSPECTION (PDI)**

**PDI CHECK LIST - Apache RTR 180**

Sl.No	Description	Not OK ( )	Remarks
<b>1</b>	<b>Transit Damages</b>		
1.1	Front fender		
1.2	Head Lamp / Housing front / Visor		
1.3	TSL Indicators LH & RH		
1.4	Clutch & brake levers position & scratch		
1.5	Damper handlebar Scratches		
1.6	Fuel tank assembly		
1.7	Fuel tank covers		
1.8	Cover frames / Tail covers		
1.9	Pillion handle		
1.10	Seat		
1.11	Silencer guard (Front & Rear)		
1.12	Saree guard		
1.13	Others (if any specify)		
<b>2</b>	<b>Missing Items if any</b>		
2.1	Split pins		
2.2	Rider / Pillion footrest rubber		
2.3	Any other items		
<b>3</b>	<b>Fasteners Tightness</b>		
3.1	Front Axle Nut		
3.2	Rear Axle Nut		
3.3	Rear shock absorber mounting nuts		
3.4	Swing Arm Nut		
3.5	Engine mounting bolts		
3.6	Footrest mouting bolts		
3.7	Damper handle bar screw		
<b>4</b>	<b>Standard Checks</b>		
4.1	Front & Rear Wheel for free rotation		
4.2	Front & Rear Wheel for any noise		
4.3	Key function - Ignition, tank, steering, cover frame		
4.4	Digital speedometer - Self check		
4.5	Mode and Set switch operation / function (Check Odo, trip meter A&B and digital clock)		
4.6	Fuel gauge and warning light function		
4.7	Clutch cable operation / free play		
4.8	Centre / side stand operation		
4.90	Drive chain slackness		

9. PRE - DELIVERY INSPECTION (PDI)			
4.10	Rear fender alignment		
4.11	Steering operation		
4.12	Front & Rear brake play		
4.13	Front & Rear Tyre Pressure		
4.14	Engine / Gear box Oil Level - Dipstick		
4.15	Gear lever & brake pedal position w.r.t rider footrest		
<b>5</b>	<b>Start the Engine after petrol in tank</b>		
5.1	Startability		
5.2	Kick / Self starter functioning		
5.3	Ignition cut off / Kill switch function		
5.4	Cold recovery - Throttle response		
5.5	Tachometer function		
5.6	Oil / Fuel leak if any		
5.7	Any abnormal Noise		
<b>6</b>	<b>Electrical check - Engine running</b>		
6.1	Head lamp & Parking lamp ON / OFF		
6.2	High beam Low beam & Focus		
6.3	Rear combination lamp - Brake & Tail (LED)		
6.4	Speedo panel bulbs (LED)		
6.5	Turn signal lamp (Front & Rear)		
6.6	Battery terminal - Jelly application		
6.7	Horn function		
<b>7</b>	<b>Road Trial</b>		
7.1	Gear Shifting		
7.2	Front & Rear Brake Effectiveness		
7.3	Speedo / Odo / trip meter display and function		
7.4	Suspension - Front & Rear		
7.5	Steering shake - On braking		
7.6	Idling RPM stability (Use Tachometer to evaluate)		
7.7	Any other abnormality		
<b>8</b>	<b>Accessories fitment</b>		
8.1	Mirrors alignment		
8.2	Tool kit		
<b>9</b>	<b>Any other Observations (Specify)</b>		
9.1			

**10. PARTS CHANGE DETAILS**

**ENGINE**

**ENGINE ASSEMBLY**



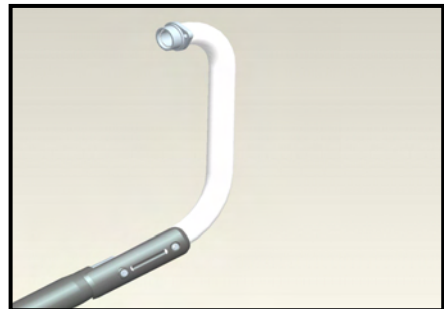
1. **Engine assembly : N9180030**
2. Engine part no. is changed due to increased capacity (180 cc)
3. Engine no. starts with "0E6"

**CYLINDER HEAD ASSEMBLY KIT**



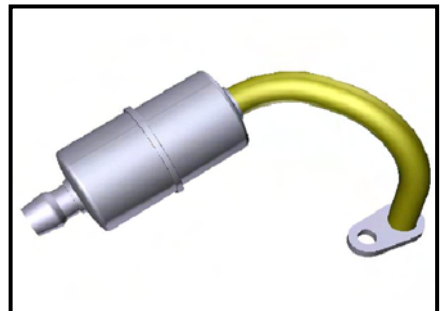
1. **Cylinder head assembly kit : N90105107D**
2. **Gasket cylinder head : M7011320**
3. Cylinder head Exhaust mounting manifold diameter increased to suit modified muffler assembly. All other child parts of Cylinder head assembly are of Apache RTR 160cc vehicles.
4. Cylinder head assembly kit is not retrofittable with existing RTR 160 cc vehicles.
5. Gasket cylinder head ID increased to suit increased bore dia. Can be identified by the white colour.
6. The modified gasket can be used with existing RTR 160cc vehicles. **However the old part available at dealership under old part number must be used only for RTR 160 cc. Do not use the old Part in RTR 180 cc.**
7. Only new part will be serviced in spares.

**MUFFLER COMPLETE**



1. **Muffler complete (with guard) : N9053160**
2. **Exhaust gasket : N9053170**
3. **Exhaust mounting bolt (2 Nos) : N5200180**
4. Exhaust tube diameter increased to suit increased CC.
5. Muffler can be identified the by the bigger exhaust tube.
6. Mounting bolts for exhaust mounting with head are same as Flame.
7. Gasket Exhaust - ID is inceased to suit the increased bore dia. Can be identified by the white colour.
8. Muffler & exhaust gasket are not interchangeable with existing RTR 160 cc.

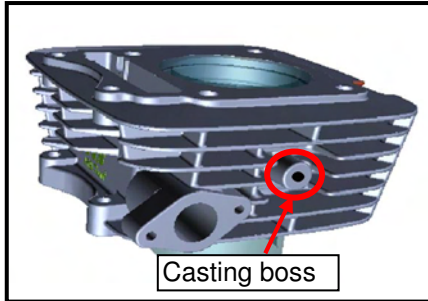
**PIPE COMPLETE SECONDARY AIR INJECTION**



1. **Pipe complete secondary air injection : N9041560.**
2. New part provided with air reservoir for better performance
3. Secondary air injection valve is same as Apache RTR 160.
4. Not interchangeable with existing RTR 160 cc vehicles.

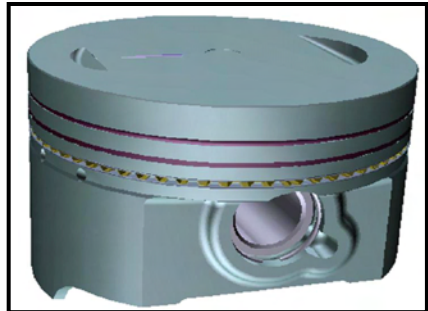
**10. PARTS CHANGE DETAILS**

**CYLINDER BLOCK**



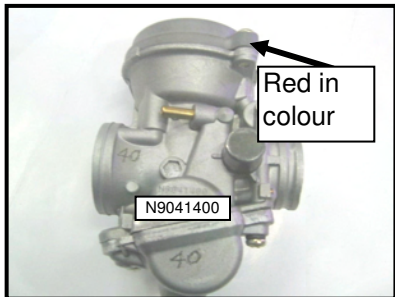
1. **Cylinder block : M7011310**
2. Cylinder bore dia increased from 62 mm 62.5 mm.
3. Can be identified by "casting boss"
4. Not interchangeable with Existing Apache RTR 160 cc vehicles
5. Cylinder block & Piston kit will be serviced in spares under part No.N9323000

**PISTON KIT**



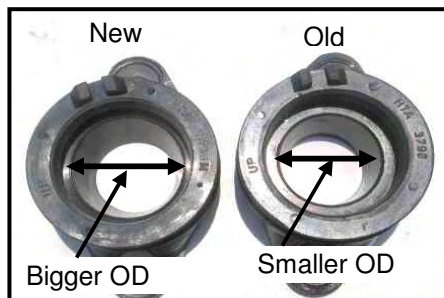
1. **Piston Kit std : N9020140**
2. Piston dia increased to suit increased bore dia of 180 cc cylinder block.
3. Piston crown top surface (Top position) edge is changed from taper to flat.
4. Not interchangeable with Existing Apache / RTR 160 cc vehicles.
5. Ring set piston will be serviced under part No. **N9020150**
6. Ring set can be identified by "**USHA 50**" engraved on the top surface of both the rings.

**CARBURETTOR ASSEMBLY**



1. **Carburettor Assembly : N9041400**
2. New Part to match increased engine capacity (180 cc)
3. Not interchangeable to RTR 160cc.
4. For Child Part details refer Page No 5 of this manual.

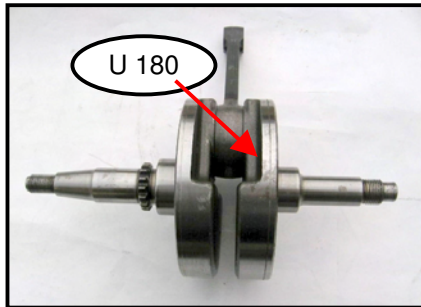
**PIPE COMPLETE INTAKE**



1. **Pipe complete intake : M7040730**
2. ID increased to suit increased capacity (180 cc). No change in ID at carburettor clamping area
3. The modified part can be used with existing RTR 160cc vehicles and hence no change in part number.  
**However the old part available at dealership under same part number must be used only for RTR 160 cc. Do not use the old Part in RTR 180 cc.**
4. Only new part will be serviced in spares.

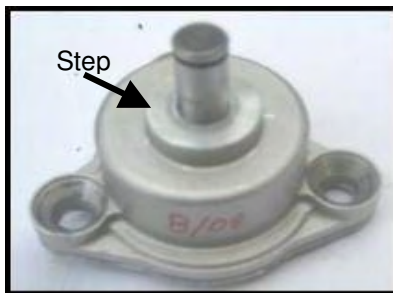
**10. PARTS CHANGE DETAILS**

**CRANKSHAFT ASSEMBLY**



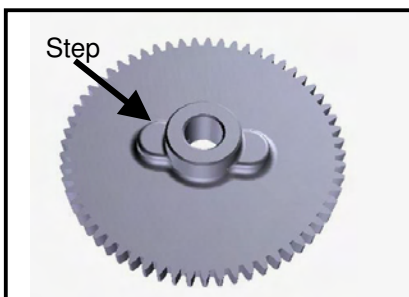
1. **Crankshaft assembly : N9020120**
2. New part, changed due to 180 cc Engine assembly.
3. Center distance between pin connecting rod big end and crankshaft is increased due to change in stroke length & Crank web OD is reduced from dia 108 to dia 105
4. Can be identified by "U180" engraved at clutch side web's inside face
5. Not interchangeable with Apache RTR 160 cc vehicles.  
**Can be interchanged with Apache 150 cc vehicles due to same stroke length. Apache crank shaft assembly serviced under part No M7020150 if available at dealership should not be used in RTR 180 cc.**

**OIL PUMP ASSEMBLY**



1. **Oil pump assembly : N9080240**
2. New part
3. Oil pump capacity increased by 1.2 Litre per minute for better lubrication
3. Oil pump alone without the driven gear is not interchangeable with existing Apache / RTR 160 cc vehicles. Can be interchanged as a set (Oil pump & Gear oil pump driven)
4. **Can be identified by the step on the body of the oil pump assembly.**

**GEAR OIL PUMP DRIVEN**



1. **Gear oil pump driven : M7081220**
2. New part to match the modified oil pump.
3. Gear oil pump driven alone without the oil pump is not interchangeable with existing Apache / RTR 160 cc vehicles. Can be interchanged as a set (Oil pump & Gear oil pump driven).
4. Can be identified by the step on the gear oil pump driven.

**ENGINE SPROCKET**



1. **Engine sprocket : N9080250**
2. Engine sprocket teeth increased from 13T to 14 T.
3. It is not interchangeable with old vehicles.

**10. PARTS CHANGE DETAILS**

**ELECTRICALS**

**TCI UNIT**



1. **TCI Unit : N9060430**
2. Ignition timing modified to suit 180 cc.
3. Can be identified by the body colour (Green in colour).
4. Not interchangeable with existing Apache / RTR 160 vehicles.

**DIGITAL SPEEDOMETER**



1. **Digital speedometer : N9222060**
2. Speedometer dial colour changed to white colour. Illumination changed from orange color to blue color. (Other functions of speedometer are same as Apache RTR 160cc vehicles).
3. Can be interchanged with Apache RTR 160 cc vehicles.

**CHASSIS**

**HANDLE BAR ASSEMBLY**



1. **Handlebar complete LH : N9151400**  
**Handlebar complete RH : N9151390**
2. Handle bar complete LH & RH finish changed to black colour
3. Can be interchanged with existing RTR 160 cc vehicles only as a set (Handle bar LH & RH together) due to colour change.

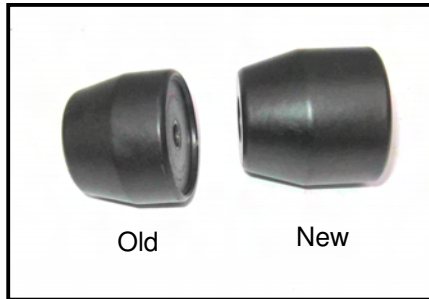
**COVER HANDLE BAR COMPLETE**



1. **Cover handle bar complete : N9151380**
2. Cover handle bar complete changed to black colour & Emblem handle bar changed from RTR 160 to RTR 180.
3. Though this cover handle bar complete can functionally be fitted on RTR 160, it is not recommended due to change in colour & Emblem..
4. Emblem handle bar will be serviced under this part No. N9214830

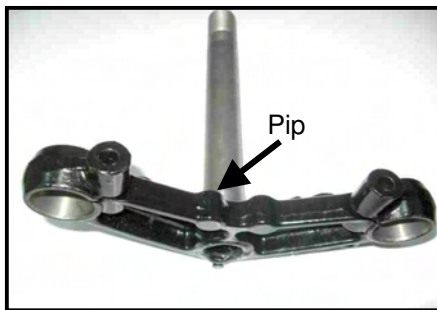
**10. PARTS CHANGE DETAILS**

**DAMPER WEIGHT HANDLE BAR**



1. **Damper weight handle bar : N9150770**
2. Longer and heavier than the RTR 160 damper to reduce handle bar vibration. This modified damper will also be shortly introduced in RTR 160cc.
3. The modified part can be interchanged as a set (LH & RH side) on existing RTR 160 vehicles.
4. In case any necessity arise to change both LH and RH, replace with the modified damper (180 cc).
5. However both old and modified damper will be serviced for replacing LH or RH side individually on old vehicles.

**LOWER BRACKET COMPLETE**



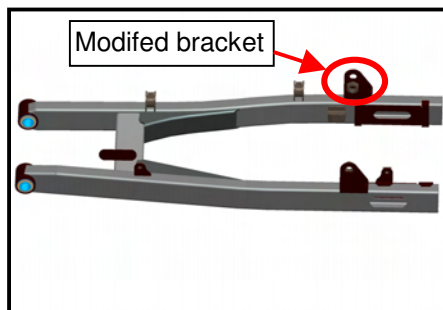
1. **Lower bracket complete : N9100460**
2. **No change in part no.**
3. Height of the bracket for fork holding increased for better life.
4. Can be identified by pip provided the lower bracket complete.
5. The modified part can be interchangeable with existing Apache / RTR 160 vehicles.
6. Only modified part will be serviced in spares.

**LEG ASSEMBLY FRONT FORK**



1. **Leg assembly front fork LH : N91009608R**  
**Leg assembly front fork RH : N91009708R**  
**Tube outer LH : N91008208R**  
**Tube outer RH : N91008708R**
2. Fork outer tube finish changed to golden yellow colour.
3. Though this tube outer RH & LH can be functionally fitted on RTR 160, it is not recommended due to change in colour & aesthetic reasons.
4. Front fork assembly will be serviced in spares under part No. **N91010808R**

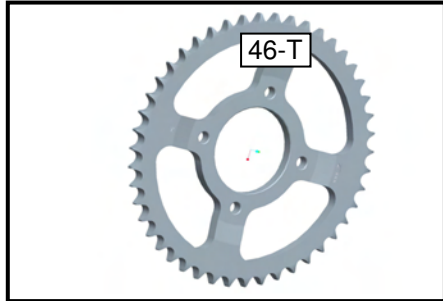
**SWINGARM COMPLETE**



1. **Swingarm complete : N9092230 (with bush)**
2. Swingarm length increased to suit modified wheel base and better performance.
3. Can be identified by modified shockabsorber mounting bracket.
4. Not interchangeable with existing RTR 160 vehicles.

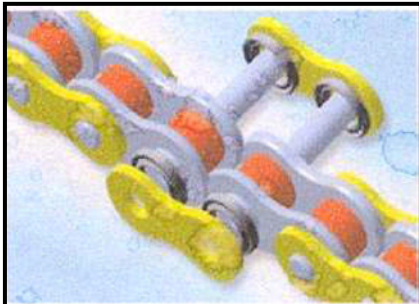
**10. PARTS CHANGE DETAILS**

**REAR SPROCKET**



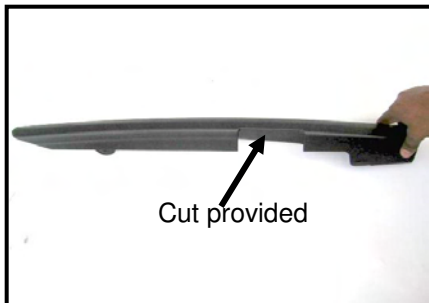
1. **Rear sprocket : N9112570**
2. Rear sprocket teeth increased from 44 T to 46 T for better ride feel performance
3. Not interchangeable with existing RTR 160 vehicles.
4. Can be identified by the **46T** mark engraved on the surface of the sprocket.
5. Drum sprocket assembly will be serviced under part No. N9112580

**CHAIN ASSEMBLY**



1. **Chain assembly : N9112830**
2. Chain assembly length increased from 124 L to 130 L. to match longer wheel base and modified sprocket teeth.
3. Servicing procedure for O ring chain is same as explained Apache RTR refresh 160 cc (Refer SER.INF / APACHE RTR - REVISION 1). After every water servicing Cleaning & lubrication the 'O' - Ring chain if necessary.
4. Not interchangeable with existing RTR 160 vehicles.

**CHAIN COVER**



1. **Chain cover : N9091700**
2. Chain cover is modified with relief cut to suit modified wheel assembly.
3. The modified part can be used with existing RTR 160cc vehicles and hence no change in part number. **However the old part available at dealership under same part number must be used only for RTR 160 cc. Do not use the old Part in RTR 180 cc.**
4. Only new part will be serviced in spares.

**SHOCK ABSORBER**



1. **Shock Absorber LH : N9092250**  
**Shock Absorber RH : N9092260**
2. Shock absorber body colour changed to golden yellow for better aesthetics & the Spring rating is modified for better performance.
3. Not interchangeable with existing RTR 160 vehicles.

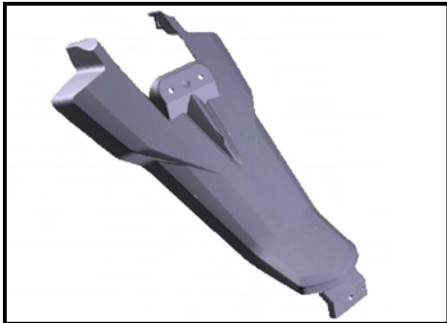
**10. PARTS CHANGE DETAILS**

**REAR FENDER**



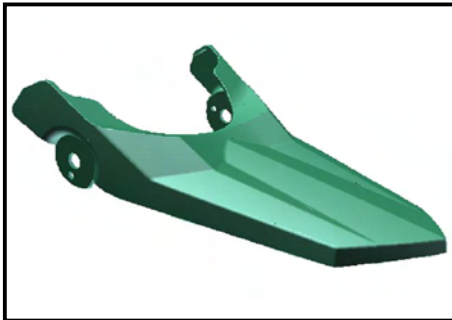
1. **Rear fender : N9222000**
2. New part due to styling
3. Not interchangeable with existing RTR 160 vehicles.

**FLAP REAR FENDER**



1. **Flap rear fender : N9222010**
2. New part to suit new rear fender.
3. Not interchangeable with existing RTR 160 vehicles.
4. Rear fender & Flap rear fender matching bracket will be serviced under this part No. **N9222040**

**COVER ILLUMINATOR**



1. **Cover illuminator : N9222020**
2. New part to suit new rear fender.
3. Not interchangeable with existing RTR 160 vehicles.

**WHEEL ASSEMBLY FRONT (TUBELESS)**



1. **Wheel assembly front : N9112890**  
**Alloy wheel front : N9112860**  
**Tyre front : N9112910**
2. New parts due to introduction of tubeless tyre assembly.
3. Front wheel size ( 90/90-17 ) is same as Apache RTR 160 cc
4. Can be identified the "**Tubeless**" & by profile of Wheel rim at the valve mounting area.
5. Not interchangeable with existing RTR vehicle as an individual parts. But as an wheel assembly can be used.
6. Valve (Tubeless tyre) will be serviced under this part No. **N9112880**

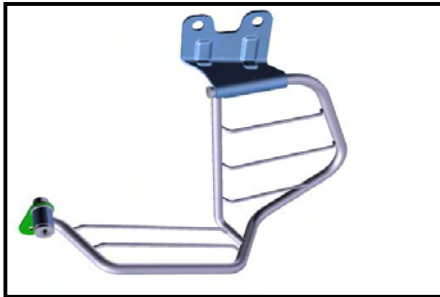
**10. PARTS CHANGE DETAILS**

**WHEEL ASSEMBLY REAR (TUBELESS)**



1. Wheel assembly rear : N9112750  
Alloy wheel rear : N9112840  
Tyre rear : N9112920
2. New parts changed to suit tubeless tyre assembly.
3. Rear wheel size changed from 100 / 80 -18" to 110 / 80 -17"
4. Can be identified the "Tubeless" & by profile of Wheel rim at the valve mounting area.
5. Not interchangeable with existing RTR vehicle as an individual parts. But as an wheel assembly can be used.
6. Valve (Tubeless tyre) will be serviced under this part No. N9112880

**SAREE GUARD COMPLETE**



1. Saree guard complete : N9221710
2. No Change in Part No.
3. Saree guard is modified to new styling.
4. The modified part can be interchanged with existing RTR 160 vehicles.
5. Only modified part will be serviced in spares.

**If you face any critical problems during the course of servicing and need further clarification or technical assistance you may contact our Area service personnel**

**You may contact us at**

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