Complete Restoration of a Motorcycle

Inspection and Cost Estimation

Determining the Condition

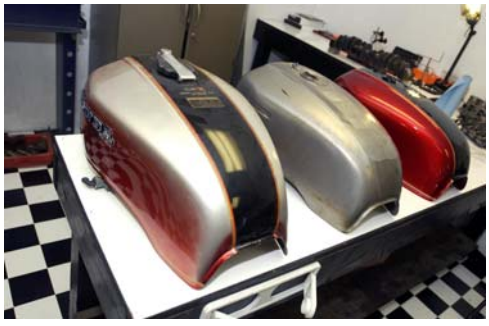
Owners ship their bikes to TIMS for restoration with very different goals in mind. Some have had the bike since it came out of the showroom, rode it for some years and then parked it in the corner of the garage. Others just purchased the bike “they always wanted” with the seller being convinced it “ran just fine”.

There are two major directions for restoration: Preserve/Re-establish the original condition or restore with some customization / technical upgrades whereas the customization goes so far as to the only original part left is the engine case.

After the bike is shipped to us we inspect and document the appearance of each part on the bike front to back, top to bottom, including nuts and bolts. From this “As is” list and the customers wish list we determine the Restoration Cost Estimate.

“As Is” and “To Be”

The most influential factors in the estimate are: How many original and restorable parts are on the vehicle? Is an engine rebuild necessary? Is it going to be a rider or a show / collector bike?



After the Estimate is discussed and signed off by the customer it is converted into a Work Order.

Sourcing of Parts

Since manufacturers are only required to produce parts for 7 years from time to market a lot of parts for classics are discontinued by now. New and original parts can be very hard to find. Certain items like exhaust systems, instrument clusters, mirrors, crank shafts, connecting rods, some bearings, wheels, and wiring harnesses command premium prices.

TIMS is able to source OEM or comparable After Market parts. Most of them for the engine, carburetors, and brakes. Additionally we stock refurbished tanks, seats, fenders, tail cowls, and side covers.

For each part on the Work Order we determine if it is going to be refurbished or needs to be replaced. Groups of parts are compiled: Needs machining, powder coating, chroming, painting, and to be purchased. This enables us to reserve shop time at our sub-contractors as early as possible and start purchasing parts needed.

Scheduling

Once we have established the mile stones in the Sourcing Process a schedule for the Restoration is determined. This schedule needs to allow for the “usual” niceties like parts are not arriving when they are supposed to or are faulty, Disassembly and Measurement Phases of the project show bent rods, warped valves, spun bearings, etc. Scheduling dates published for a project by TIMS are best estimates only. We try to finish projects according to estimated dates but can not be responsible for occurrences out of our control.

Disassembly and Cleaning

Disassembly means the motorcycle comes completely apart. During disassembly the predetermined condition of the parts on the Work Order is verified and corrected if necessary. All Parts are cleaned and prepped for the next phase.

Measurements and Parts Usability

Every part is inspected and measured to compare against manufacturer tolerances as well as overall condition. It takes some experience to know which parts in the engine and fuel delivery system need to be replaced with new ones regardless how good they look! It is not amusing to feel almost irreplaceable engines cease up or find a couple of gallons of flammables on the floor.

Refurbishing Process

Getting all the parts of the motorcycle back to original condition and looking like new is divided into separate processes.

1) Powder Coating to apply a hardened durable colored or clear surface to parts like frame, triple clamps, handle bars, etc.

2) Polishing/Resurfacing to make nuts, bolts and faded plastic parts come to life again.

3) Chroming for Exhaust Systems, Rear Shocks and Springs, Tank Locks, Seat Rails, and other parts upon customer request.

4) Painting is needed for Tanks, Front Fenders, Tail Cowls, and Side Covers.

5) Machining: Cylinders are honed and Cylinder Heads are planed and overhauled if necessary.

6) Certain parts can be remanufactured if necessary.

Assembly

Once all parts are refurbished the assembly process can begin. Starting with the engine,

100% attention to detail ensures that a restoration is very hard to distinguish from an untouched original.

then rolling chassis, engine mount, carburetors and air box, wiring harness and electrical components, fenders, brakes, lights, instrument cluster, controls, foot pegs, temporary exhaust system. And yes, all original stickers, decals and plaques need to go on again.

At this stage fuel gets hooked up and the carburetor synchronization is performed. After the carbs are dialed in and all mechanical and electrical functions of the vehicle are tested the temporary exhaust gets exchanged for the permanent one. This prevents any exhaust discoloration while the carbs are still off.

Now the tank, tail cowl, seat … Looking good!

Quality Inspection, Testing

Once the assembly is completed the motorcycle gets inspected against the Work Order to ensure compliance and the condition of paint work, refurbished parts, function of sub-assemblies, and overall appearance are attested.

After the project manager signs off on the vehicle the motorcycle is road tested between 100 and 600 miles depending on vehicle and customer preferences. Following the Break-In period a second detailed inspection is performed in order to prevent any concerns once the finished vehicle is delivered to the customer.

Shipment, Customer Delivery

Customers are encouraged to reserve a 2 to 3 day period for the delivery of their restored bike. The shop is located about 30 miles from one of the most spectacular riding grounds in the US. It is a perfect opportunity to enjoy an “as new” motorcycle that was perhaps first built 30 years ago.

Alternatively we can reference specialized transport companies that will deliver the vehicle door to door within or outside the US. Crates are built on site to ensure damage free arrival especially for a big heavy bike with delicate front forks.

TIMS' restoration is accompanied by a collection of electronic pictures for the owner documenting the process.