



## SIX-DAYS BIKE PREPARATION

### TECH TIPS

The following is a detailed description of how we go about preparing our bikes for the Qualifiers and subsequently for the Six Days.

In building a bike for these events there are two things that are of prime importance; absolute reliability, and ease of servicing. All of the work detailed below will be directed towards those goals.

The basic procedure we follow is to take a new bike and service it and ride it for 2 or 3 hours. This will let us know if there are any specific problems that need extra attention. Then we will completely disassemble the bike and reassemble it with the modifications outlined below. Remember, careful work done now can eliminate problems during a race.

### CHASSIS

1. Remove paint from frame at front motor mounts, rear swingarm mount, and on inside of motor mount plates.
2. Use washers between frame and rear seat mounting brackets.
3. Grease swingarm bearings with waterproof grease.
4. Remove bushing from front of rear brake anchor, grind down end of anchor .020", replace bushing.

### ENGINE

1. Split Cases.
2. Remove any problem found in initial riding.
3. Polish edges of shift arm, shift detent, drum detent.
4. Clean and match ports in cylinder. (Don't get radical here because this motor must last at least 1000 miles!)

5. Reassemble with extreme care and cleanliness.
6. Install motor in frame making sure motor mounts are free of grease and oil for good electrical contact.

SUSPENSION

1. Dissassemble forks and install good fork seals; we use one Honda seal 91255-273-000 and one Husky seal above it.
2. Reassemble forks using extreme care and cleanliness.
3. Fill forks 250 CC of fork oil; we use the following guidelines as far as oil viscosity for temperature ranges;

Above 75 degrees Farenheit	40 W
50-75 degrees	30 W
30-50 degrees	20 W
10-30 degrees	10 W
Below 10 degrees	ATF

4. Install forks on frame.
  - a) If using frame with ball bearing steering head, pack with grease and use 23 individual balls in the top and bottom - tighten by hand, back off 1/4 turn, loctite top jam nut.
  - b) If using taper roller bearing, grease and be careful of rubber seal.
5. At the rear you want to use a shock that is strong; rebuildable, and works well for trail use. We recommend either the Curnutts as stock on the OR bikes or Ohlins with the cross country damping. If you use the Ohlins on a CR frame, indent the rear fender to allow room for the reservoir tube of the left shock to go between it and the frame. If you want to use Ohlins on a frame that doesn't have reservoir mounts, you can use the right frame rail under the seat to clamp the right

reservoir to. A straight bar should be T.I.G. welded to the frame just under the seat. One end of the bar should be welded at the inside corner of the left frame rail and the bar that goes across for the front seat mounting bracket. The other end of the bar goes at the junction of the right frame rail and the main frame backbone. The left shock reservoir can be secured to this bar with a hose clamp.

6. We are replacing the stock bottom chain tensioner rubbing block with a modified skateboard wheel. You need to get a 1-7/8" diameter wheel for CR's, OR's, WR's, except 125 and Autos take 2-1/2" diameter wheel. We use wheels that have 2 sealed bearings 7mm wide with 8mm hole and an 11mm spacer between them. We then cut the skateboard wheel down to 25mm width so that it is flush with the bearings on both sides. The skateboard wheel is then installed with the brake pivot bolt thru the bearings and spacer. The top rubbing block must be widened to 25mm also. We cut 2 pieces from the discarded bottom rubbing block, 2mm wide and place them on either side of the original block. 5mm longer bolts will have to be used for this wider guide.
8. Together with this widened tensioner we are widening the rear guide with 2-1mm washers. The point of the widening is to allow usage of the Husky O-Ring chain. The O-Ring chair is a must for the Qualifiers and Six Days.

#### WHEELS

The major concern here is to be able to quickly and easily fix flats and change tires.

1. Remove rim locks. We are using the new gold rims with pins to keep the tire from spinning. Tire pressure shouldn't be less than 10 psi front and rear. Sun rims with pins serve the same purpose.
2. In order to remove the front wheel easily we are modifying it as follows:
  - a) Remove wheel and axle from fork
  - b) Put axle thru wheel and tighten.
  - c) T.I.G. weld left side Axle nut to steel spacer of brake backing plate.
  - d) Cut off head of left side Axle nut. Plug the end of the nut with a rubber plug or silicone seal.
  - e) Reinstall front backing plate in left fork leg.
  - f) Install wheel making sure fork legs are not binding.
  - g) Tighten left side pinch bolts.
  - h) Remove axle and grind down outside edge of right axle nut approximately .015" 1/8 inches from end. This will make the axle easier to pull thru the fork slider. Remember, the right axle nut should be loctited to the axle.
  - i) When changing front tire, lay bike over on left side, loosen right pinch bolts; pull axle out right side, pull wheel out. To replace wheel, turn left fork leg out to slide wheel in, put wheel on top of brake plate, spinning it slowly to get hub over brake. Then line up wheel with right fork leg, install axle. It is easier to get the axle in if you lift up the fork leg, taking weight off the wheel.
3. In order to remove the rear wheel easily we are modifying it in two ways depending on which wheel is used.

- a) In both cases, the left side spacer must be made into two pieces. For the 18" wheel with a 57mm spacer, replace it with a short spacer from the front wheel 1516-536-01 and an old rear wheel spacer 1516-669-01. For the 17" wheel, the spacer must be cut in two, flush with the hub. In both cases make a groove in the outer piece and, using the inner cable from a control cable, strap it to the left shock bracket.
- b) For the 18" wheel, T.I.G. weld the left side axle nut and spacer to the axle. A short bar can also be welded on to prevent the axle from turning and to provide something to pull on when removing the axle.
- c) For the 17" wheel, T.I.G. weld the left axle nut and adjuster to the axle. Notch the swingarm at the left chain adjuster hole so that the axle/adjuster, can be pulled straight out.
- d) When changing the rear tire, first remove the right axle nut, then lay the bike over on the right side. Pull the axle out from the left (up) side. Place the axle spacer with the strap on it over the shock out of the way. Slide the wheel forward, derailing the chain. Lift the wheel up off the brakeshoes and out. Reverse the procedure when installing the wheel. Be careful to get the right side spacer in the correct position before fully installing the axle. On the 17" rear wheel, this process will be difficult because of the extra width of the hub. All we can say is practice; we are working on a better solution.

### LIGHTS

1. We are using Preston Petty headlight number plate with the new mounts that clamp on the fork tubes. You must cut away the gusset on the backside of the number plate just to the right of the left mounting bracket to allow sufficient clearance for the front brake cable.
2. When wiring the lights, we run them direct with no switch. The filaments in the headlights are more flexible when warm. Wire the high and low beam together with the tail light.
3. We are using the Preston Petty tail light socket and lense on our stock rear fender just as the replica bikes are. This involved holding the bulb and socket with a rubber fender bracket and holding the lense on with screws and locknuts.
4. Remember careful routing of wires can prevent problems when the lights stop working. Also ground both front and back lights at the ignition bracket. A loop of the wires coming off the front headlight bulb socket will prevent breakage of the wires from turning the steering head thousands of times.

### CONTROLS

We cannot stress enough how important good routing of cables can be.

1. We recommend the Whirlpull throttle; it will save throttle cables.
2. Front brake cable must be free to move behind the number plate. Make sure there is nothing the cable can hook on when the forks are fully compressed.
3. Clutch cable should be routed so as not to hit exhaust pipe.
4. Auto disengagement cable free play must be 1mm.

5. We use Yamaha lever covers.
6. Use steel cable adjuster lock nuts, not the black plastic ones.
7. Lube brake and clutch - do not lube Terry Cables if used.
8. Malcolm Smith products has a good folding shift lever we are using.
9. Lube brake pedal pivot with Never-Seize.

#### TOOLS

Here is a list of the tools we carry for the Six Days.

1. Special tool - fits spark plug/rear axle nut/front axle nut/13mm open end wrench.
2. 4" crescent wrench.
3. Straight blade screwdriver/Phillips Screwdriver.
4. 5mm Allen wrench
5. Pliers or channel locks or vise grips.
6. (3) Tire Irons and CO<sub>2</sub> cartridges.
7. Chain breaker.
8. Miscellaneous parts - axle nut/spark plug/10mm nut/13mm nut/chain parts.

#### CONCLUSION

We'd like to throw in here a couple of ideas that might be worthwhile in the future. Remember problems you have had in the past and try to come up with a complete solution. You are the one to blame if you have the same problem twice! Detail work is what will make a race easy or hard. Almost always it's small problems that make for bad results. You should try to work on your w<sup>e</sup> bike as much as possible to become familiar and confident

on working on it. Two things you want to do if you do nothing else, protect the spark plug lead from the exhaust pipe and route the throttle cable carefully - the Terry Cables come with a spring protector to keep it from burning on the pipe. If you use one, remove the wire on the exhaust pipe designed for that purpose.

In order to achieve the famous 3 minute tire change, there is only one secret; practice.

GOOD LUCK AND GOOD RIDING!

*Dick Buleson*

*Robert Popiel*