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MiscRes: Magazine Articles

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Spring Checkup, How to Do It like the H-D Dealer Does

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TECH

SPRING CHECK-UP

How To Do It Like The H-D Dealer Does

Text and photos by Sarah Castelli

Spring is here and if you have stored your motorcycle for an extended period of time you're thinking about what needs to be done to get your bike ready to ride; smart move. A thorough check of your motorcycle could keep you and the bike from getting banged up due to an overlooked, avoidable problem.

You could, of course, always bring your bike to a qualified shop or authorized Harley-Davidson dealer. Or, you could do the job yourself by carrying out the same basic checks that the dealer does. The following steps and photos will guide you through the process. Be sure to have your Owner's Manual and a Harley-Davidson Service Manual handy to check the particular service spec for your model machine.

But before we get into the thick of it, a few words of caution. Always work in a well-ventilated area. Fuel is flammable, so take the proper precautions and don't work where there's an open flame, sparks or pilot lights. Also, if you work in a clean area and your tools are organized, the whole process will go a lot smoother. If you are unsure about something, have an experienced mechanic check it out for you. This way, you and the bike are safe and you'll know more the next time you run across that problem. It's called experience and by doing your own spring checkup, you'll be getting some. With that said, on to the job!

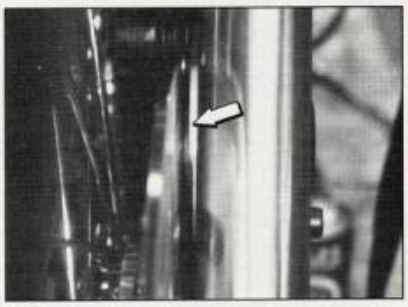
THE CHECK-UP

Check all fuel lines and the petcock, which is located under the gas tank, for any signs of leakage. Your finger is a good leak detector. Run your finger around where the petcock attaches to the fuel tank, under all hose connections, and under the flow bowl of the carb. Is your finger wet? If it is, you have a leak. Also, bend all hoses sharply and look on the outside of the bend for cracks (see photo 1). If you find cracks, replace the hose because it's dry rotted. If you find a leak, fix the problem if you know what to do, or bring it to a qualified mechanic.

The next areas to inspect are the front and rear wheels. Check for loose fasteners by using a torque wrench to tighten lock-nuts to the proper torque as specified in the bike's Service Manual. On laced wheels, check the hub, rim and spokes. An easy test for loose spokes is to tap them lightly, one at a time, with a small wrench, such as a 7/16". All the spokes should have about the same tone. If one sounds "duller" than the others, it's a little loose. If you find any loose or broken spokes, have the repair done by a qualified

1 Use your fingers and eyes to look for fuel system leaks. If your finger's wet, you have a leak. Also, bend all hoses sharply and look on the outside of the bend for cracks, a sure sign of dry rot.

2 Inspect the front and rear tires for excessive or uneven wear. Adjust the tire pressure according to the information printed on the side of the tire.



3 Look parallel to the disc towards the caliper to see the friction material against the disc inside the caliper. (A flashlight will help out a lot.) The distance from the disc to the metal that the material is bonded to must be at least 1/16" or the pads should be replaced.

4 Next, check the fluid level in the front master cylinder. As you can see, though you can level the bike and turn the bars, the cylinder is not really level. You'll have to estimate when the fluid is about 1/8" from the top.

mechanic with the proper tools. Also inspect the front and back tires for excessive or uneven wear and adjust the tire pressure according to the information printed on the side of the tire.

While you are working on the wheels, inspect the front and rear brakes. Usually, these items require little maintenance. Inspect the discs and brake pads. If the discs are warped, excessively worn, or blue in color, replace them. To determine whether or not a disc is excessively worn, measure the thickness of the disc with a tool called a dial caliper. (You can pick up a decent one for about $20 from a discount tool catalog.) You will find the minimum acceptable thickness stamped on the side of the disc. To check the brake pads, look parallel to the disc towards the caliper (see photo 3). What you'll see is the friction material against the disc inside the caliper. (A flashlight will help out a lot.) The distance from the disc to the metal that the material is bonded to is the distance you are measuring. Replace the brake pads as a set (both front pads, for example) if the friction material is worn to 1/16" or less.

5 When the bike is upright and level, the brake fluid in the rear master cylinder should be 1/8" from the top.

While you're doing the brakes, also check the master cylinder reservoirs for proper fluid levels. The front brake's master cylinder (see photo 4) is connected to the brake hand lever assembly. The rear brake's master cylinder (see photo 5) is located on the right side of the motorcycle near the brake pedal. When the bike is upright and the reservoirs are level, the brake fluid should be 1/8" from the top. As you can see from the photo, though you can level the bike and turn the handlebars so the front master cylinder is sort of level, it will not be fully so. You'll have to estimate the correct amount. Tip: if you are going to replace the brake pads right away, don't top off the master cylinder's fluid level. The fluid level is low because the brake pads are low. Without going into a brake system primer, the fluid level will come back up once new pads are installed. If you top off the master cylinder now, the mechanic will just have to drain off the excess fluid later.

Since you are dealing with fluids, let's move over to the bike's powerplant. Stand the bike upright on a level surface. Be sure the bike is secure and won't fall over. Put a suitable pan, one that is low enough to fit under the bike but can hold a few quarts of oil, under the primary's (or chaincase's) drain plug. The drain plug is on the underside of the primary (see photo 6). Remove the plug and drain the fluid from the primary. This is the same fluid that lubricates the transmission because the tranny and primary are interconnected. Be careful not to try to turn the plug in the wrong direction. Working upside down doesn't change the fact that the plug will

6 Change the primary fluid. The drain plug (see arrow 1) is on the underside of the primary. Also check the chain tension through the inspection cover (see arrow 2). The chain tension is adjusted with an adjusting bolt (see arrow 3) on the underside of primary.

7 After servicing and fully charging the battery, reinstall it in the motorcycle. Reconnect the positive cable first, then the negative (ground). Be sure the vent tube, if applicable, is properly positioned.

come out when you turn it counterclockwise. After the fluid is drained, reinstall the plug to the recommended torque only.

Before you refill the primary with oil, check the tension of the primary chain. Do this by first ensuring that the engine will not start (key off, kill switch to the off position, pull both plug wires and the ground wire from the battery). Then remove the primary chain inspection cover. With the cover off, you will see the top section of the primary chain. With your finger, lift up on the chain and see how much it moves. Write that measurement down and mark the floor to show where the wheel is. Then do this on four more sections of chain. This is done to find the tightest section and adjust the chain tension to that section. To move the chain to the next section, place the bike in first gear and roll the bike forward about four inches. Measure the chain again. When you have all the measurements, you are ready to adjust the chain. If you are lucky enough to be on the tightest section, great. If not, move the bike back to the mark that corresponds to the tightest section of chain.

The chain tension is adjusted with an adjusting bolt (see photo 6), which moves an adjusting shoe located inside the primary. This adjusting bolt has a lock nut on it. The bolt and nut are located on the underside of the primary below the primary chain inspection cover. Loosen the lock nut and turn the bolt — in for tighter, out for looser — until the chain has between 3/8" to 1/2" of slack. Then tighten the lock nut. You can now refill the primary with the fluid recommended in your bike's Service Manual. Do this by pouring the oil through the primary chain inspection cover opening. Then replace the cover and take the bike out of gear. You can also put the ignition wires back onto the spark plugs, but leave the battery cable off for now.

The air cleaner and filter are the next components you want to inspect. Remove the air cleaner cover by unscrewing the two cover screws (see photo 9). Then remove the filter element from the backplate. Clean the backplate and the inside of the cover with a clean rag. If the filter element is damaged, replace it. If it looks suitable, thoroughly wash the element in soapy water. To remove debris, soak the element for 30 minutes in warm water and a mild detergent. Dry the element with low pressure, compressed air. Don't use high pressure air, which can blow a hole right through the element. If a

8 Check the engine's oil level using the oil tank filler cap's dipstick. Some oil may have settled into the crankcase during storage. As long as the dipstick indicates there is some oil, you may start the engine. The level should be correct after a short run.

9 After you remove the air cleaner's cover, clean it and the backplate with a clean rag. If the filter element is damaged, replace it. If it looks suitable, wash the element in soapy water.

compressor is inaccessible, let the element air-dry or shake it dry. Never bang the element against any surface. When the element is dry, reinstall it onto the backing plate and reinstall the cover.

If you have a sealed battery, put it on a battery charger to bring it up to full charge. If you have an unsealed battery, remove the battery from the bike and place it on a piece of wood. Open the six plugs on the top of the battery. (Be careful not to touch your face or eyes after touching the battery.) Look into the battery and see if its plates are covered by water. If they are, don't top off the battery at this time. Put the battery on the charger to bring it up to full charge. When it's ready, remove the charger from the battery and check the level of the battery fluid. If it is still below the recommended level (check the face of the battery to see where the fluid level should be), add distilled water to bring it between the "low" and "full" lines. Then replace the battery's plugs. Make sure the battery's overflow hose is in place and connected properly. You can now reinstall the battery in the motorcycle and reconnect the cables, positive first, then negative. Be sure the vent tube, if applicable, is properly positioned. With the battery fully charged, check all electrical equipment and switches, including headlight, turn signals, brake light and horn. Make sure that all lights and controls are working correctly.

While the handlebars are in your hands, turn them slowly from left to right and check for smooth operation. If there is any indication of binding or a rough spot, look for the cause. If you can't find an external cause for the binding or rough spot, there may be a problem in the steering head. Bring

the bike to a qualified shop or Harley-Davidson dealer for repairs. Do not ride the bike there.

These last couple of checks before starting the engine are very important. First, place the transmission in first gear. Then disengage the clutch and push the bike back and forth a few times to ensure that the clutch has disengaged the engine from the transmission. If the clutch does not disengage, do not start the bike. Have a qualified mechanic try to break it free or determine what is wrong.

Check the engine's oil level using the dipstick that's connected to the oil tank filler cap (see photo 8). Because some oil may have settled into the crankcase, the oil level may be lower than it was before storage. As long as there is some oil on the dipstick, you may start the engine. Exhaust fumes are dangerous, so always start the motorcycle in a well-ventilated area. Note: the fuel additive added in autumn will preserve the fuel through the winter. However, it may cause the exhaust to have an unpleasant odor. Once the fuel supply has gone down, you may want to add fresh fuel. This will dilute the remaining additive.

10 With the battery fully charged, check that all electrical equipment and switches, including headlight, turn signals, brake light and horn are working correctly.

Turn on the petcock, engage the choke, turn the ignition on, flick the kill switch to "run," and hit the starter button. The engine should fire off after a few cranks of the starter. Let the engine run for about a minute, then shut it down. Check for gas leaks again just in case the lines were empty the first time you did it. After all, if you did have a leak, the gas may have run out. Fire the engine again and let it warm up a little before taking it down the road. Check the brakes as soon as you start to move down the driveway. If there's no oil leaking from anywhere and the brakes and clutch feel right, take the motorcycle for a ride.

After you have ridden for about 15 to 20 miles, head back home. Turn off the engine and recheck the oil level. Now, while your bike was in storage moisture may have condensed on the interior of the engine. However, when you brought the engine up to running temperature, any moisture in the engine or oil evaporated and passed out of the crankcase breather. If you changed the oil and filter prior to storage, there is no need to do it again. So if the oil level is still low, top off the oil tank. If you didn't change the oil and filter before storing it, do it now while the oil is hot and before the dirt and grit you want to remove from the engine settles out of the oil again.

With all the dirty work done, it's time to clean your bike and give it a good waxing. Once you have polished all of that chrome, you're ready to take your first real ride of the season. ■

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article submitted by ferretface of the XLFORUM