Thanks for Ordering
The Honda Ace/Spirit 750 Wide Drive Conversion Kit
from

READ THIS BEFORE UNPACKING YOUR KIT!

This instruction booklet contains detailed steps for installing the belt drive conversion kit on your Honda 750 Ace, Spirit, or Slasher motorcycle. Please pay careful attention to the instructions regarding the unpacking and handling of your belt. The belt can be damaged if handled improperly. If you have any questions concerning installation of your belt drive, please contact us via e-mail at support@scootworks.com. This will ensure you receive the most prompt and accurate reply.

Rev 1.5; 9/9/04

Instructions for Installing the Scootworks Belt-Drive on The Honda 750 Ace, Spirit, or Slasher

Tools Needed:

- Safety glasses!
- Flat-head screwdriver
- Socket wrench pull bar (24" recommended)
- Torque wrench calibrated in foot-pounds
- Hacksaw with fine tooth metal cutting blade or dremel tool
- Metric Allen Wrench adapters for ratchet/torque wrench (very handy!)
- 5mm Allen wrench
- 3/16" Allen Wrench
- ¼" Allen Wrench
- 8mm socket
- 10mm wrench
- 10mm socket
- 12mm wrench
- 14mm wrench (2 ea.)
- 14mm 6 point deep well socket
- 17mm wrench
- 17mm socket
- Thinwall 19mm socket
- 22mm socket
- 24mm socket
- 27mm socket
- 1/2" wrench
- 1/2" socket
- Appropriate ratchet for sockets chosen
- Large adjustable wrench
- Medium and HIGH (RED) strength Loctite
- Rubber mallet or dead blow hammer

The installation of the Scootworks Belt Drive is similar to combined standard tasks of replacing the OEM sprockets and chain, and performing the swing arm service/lubrication, with the addition of minor modifications to the inside of the front sprocket cover. Scootworks wanted to assist you as much as possible with the installation process, and developed this instruction manual. If there are any steps you feel need improvement in instructions, please email **support@scootworks.com** and specify the area you are having trouble with.

UNPACKING!

The shipping container and contents must be inspected by the purchaser for damage to goods immediately upon receipt of goods, and a claim must be filed with the carrier if damage is discovered. The purchaser must Scootworks within 24 hours from receipt of damaged goods to file a claim, and for further instructions. Your Scootworks Belt Drive will come packed with the front pulley assembly, the rear pulley, the belt, a belt tension tester, a shifter linkage assembly, and these printed instructions. Uncoil the belt, with the teeth turned inward. **DO NOT** fold the belt inside out, nor pinch to a fold of less than 1 1/2"! This will permanently damage the material used in the construction of the tensile members within the belt. While the belt is **VERY** strong, these are important handling precautions that should be followed closely. There is more info on this in the **FAQ** page.

BEGIN INSTALLATION

1. Lift the rear of the bike above the floor, 6”-8” of clearance between the floor and bottom of the rear wheel is recommended. If a frame-style lift is not available, an automotive type screw jack or hydraulic floor jack can be used in conjunction with a 24” long 2”x4”, with the 2”x4” turned crosswise in front of the rear tire, lifting against the bottom of the swingarm. Lift the rear of the bike well above 8”, and insert a set of jack stands under the frame (not swingarm) as far rearward as possible, but just prior to the swingarm pivot point. Be sure to have help available for this exercise, to steady the bike while lifting and assist with placing the jack stands. Attempting this alone can be dangerous!

2. Loosen the 27mm rear axle nut, located on the RH side of the swingarm. Hold the LH side of the axle with a 22mm wrench, while loosening the nut with a pull bar and 27mm socket (or large adjustable wrench). Loosen only by 2 revolutions.

3. Using a 14mm 6 point socket, remove the rear brake adjustment nut from the brake linkage. Once removed, depress the brake pedal and remove the brake rod and spring from the brake lever on the rear brake drum. Push the round insert from brake lever on the rear brake drum, slip it on the brake rod, and reinstall the 14mm rear brake adjustment nut on the brake rod. This will secure all components until you’re ready for reassembly.

4. On the same side of the brake drum as the rear brake lever, locate the drum tie rod. This is the rod that secures the rear drum to the frame. Remove the cotter pin from the attachment point on the drum, loosen and remove the 12mm nut, and press the attaching bolt from the tie rod and drum assembly. Reinstall the bolt, rubber bushing, flat washer, 12mm nut, and cotter pin in the tie rod. This will secure these components until time for reassembly. The photo above illustrates steps #3 and #4… You’ll notice the brake linkage and tie rod, disconnected from the rear drum, and with the associated parts reattached for security.

5. Loosen the 8mm rear wheel adjuster bolts **all the way**. There is one adjuster assembly located on each side of the swingarm. Loosen them and adjust the axle/wheel assembly all the way forward, allowing the rear wheel to move as far forward as possible in the swingarm, loosening the chain.

6. Remove the 8mm bolts securing the chain guard, and remove the guard. Break the chain and remove it from the bike. A chain breaker is best for this task, but it can be accomplished with a dremel tool or portable grinder. If the grinder method is used, grind a brad from a chain link, and separate it at this point. You can also lift the chain from the rear sprocket, and remove it as one single piece when the swingarm is removed.

7. Remove the front sprocket cover. This is accomplished by removing the spring clip from the upper rear side of the sprocket cover, and removing the 5mm Allen bolt from the lower portion of the sprocket cover. Place the parts aside for minor modifications and reinstallation later.

8. Place the transmission into 1st gear. Using a 10mm box end wrench, loosen and remove the pinch bolt from the shifter linkage where it attaches to the splined transmission shift rod (near the front sprocket), and pull the linkage from the splined shift rod. Loosen the jam nut on the chrome pushrod (from the shifter pedal) where it is locked against the linkage you just removed from the splined transmission shift rod (this is a LH thread, so turn it in the opposite direction to loosen). Once the jam nut is loosened, screw the old shifter linkage off of the chrome pushrod. Remember, this is a LH thread! Locate the new shifter linkage in your kit, and screw it back onto the chrome pushrod. Leave the jam nut loose at this time. Remove the 10mm pinch bolt from the original shifter linkage, and install it in your new shifter linkage… hand tight only.

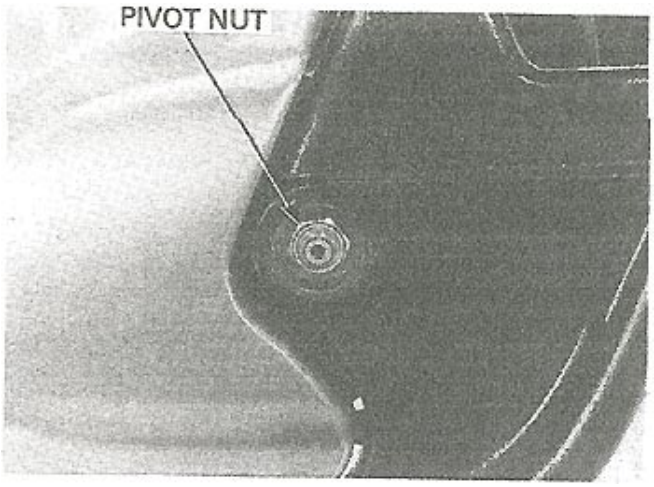
9. Loosen and remove the 10mm bolts in the front sprocket that secure the retainer. Turn the splined retainer ring slightly, and remove the retainer from the output shaft (countershaft). Lift the chain off of the sprocket, and remove the front sprocket at this time. DO NOT reuse the front sprocket retainer on your new pulley.

10. Completely remove the 27mm nut from the rear axle. Lift the rear wheel to relieve tension from the rear axle, and push the rear axle from the rear wheel assembly. Lower and remove the rear wheel from the swingarm. Take care to notice the placement of the rear axle bushings on either side of the swingarm (one on each side of the wheel), and the two rear wheel spacers. Once removed from the bike, pull the brake assembly from the rear drum (RH side of the wheel), and place out of the way. Place the wheel on it's side, with the open brake drum cavity facing downward, and the sprocket facing up.

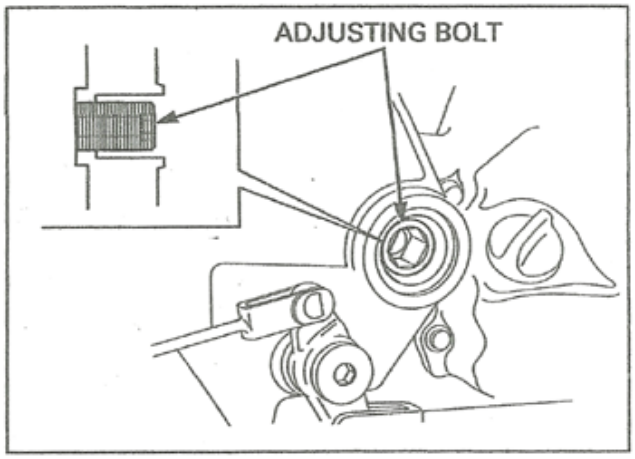
11. Using a 19mm socket and pullbar, remove the 5 nuts securing the sprocket to the rear wheel. Remove the sprocket from the wheel. Set the new Scootworks rear pulley on the wheel, with the deep side of the pulley facing inward (toward the wheel). Reinstall the 19mm nuts (5 each) with a **THIN WALL** 19mm socket, and tighten until only snug. Using a torque wrench, torque these 5 nuts to 65 ft/lbs. Be sure to torque these nuts in a **star pattern**. Place the rear wheel assembly aside for reinstallation at a later time. The photo below shows the installation of the rear pulley, one nut is in place for illustration purposes.

12. Place a box or similar support under the swingarm. Using a 12mm socket or wrench, **r**emove the upper and lower shock bolts (one on each side of the bike) from the swingarm. Remove the shocks from each side of the bike. This will allow the swingarm to move up and down freely. Next, we'll be removing the Swingarm. Don't let this step frighten you…the Ace/Spirit/Slasher bikes have the easiest swingarm removal of any on the market. Removal is a very straight forward process, and you'll find several pics below to assist you…

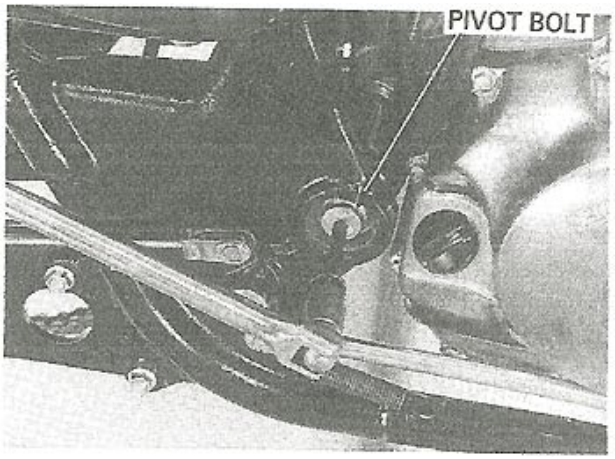
Locate the two black plastic caps that covers the swingarm pivot bolt. There is one located on each side of the bike. Slip a straight screwdriver behind the caps, and pry them off. This will expose the swingarm pivot nut on the LH side of the bike, and the head and lock ring of the swingarm pivot bolt on the RH side. See the pic of the pivot nut on the LH side, below…



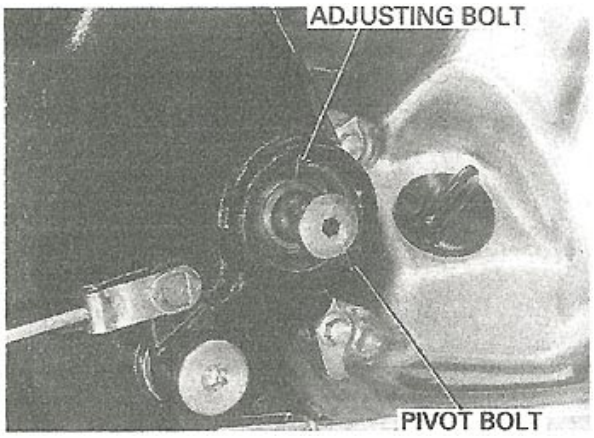
Using a socket, loosen and remove the swingarm pivot nut from the LH side of the bike. Study the drawing below, of the RH side pivot assembly. The swingarm pivot bolt is inserted into a hex hole within a threaded tube also called the 'adjusting bolt'). This threaded tube has a 'spanner-type' locking ring around it. When looking at the swingarm pivot from the RH side, you'll identify the locking ring with four evenly spaced notches. You can use Honda's special tubular tool (07GMA-KT70200) to unlock this, or simply use a small punch and hammer to tap the ring counter-clockwise. Once loosened, spin the locking ring completely off of the threaded tube ('adjusting bolt').



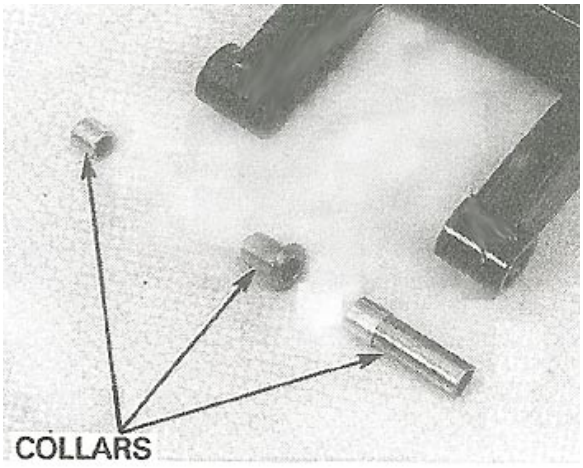
Once the lock ring is removed, insert an allen wrench into the head of the swingarm pivot bolt. You can use a conventional allen wrench, but I prefer to use the allen adapters for a ratchet/pull bar. This allows for torque setting later in the project. Keep the pivot bolt pushed into the threaded tube ('adjusting bolt'), and turn the swingarm pivot bolt counter clockwise approximately 6 revolutions. This will screw the threaded tube outward, and provide clearance needed to remove the swingarm. See the picture below…



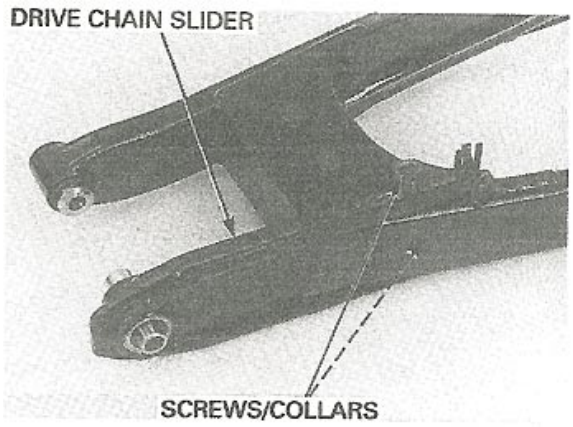
Once the threaded tube is loosened approximately 6 revolutions, push the swingarm pivot bolt from the LH side of the bike with a long screwdriver, out of the threaded tube ('adjusting bolt')/swingarm assembly. The swingarm can now be removed! Below is a picture of the swingarm pivot bolt, partially pushed from the swingarm/threaded tube ('adjusting bolt')…



When the swingarm is removed, notice the three spacers (collars) that are inserted into the swingarm, and are in the path of the swingarm pivot bolt. They can fall out during removal of the swingarm, so pay close attention to their position. On the next page, you'll find a drawing that illustrates the proper location of these bushings (collars).



13. Now that the swingarm is removed, you'll find the rubber swingarm slider installed on the LH side of the swingarm. Remove the fastener on the top and bottom of the swingarm that retains this slider, and remove the slider. You will not reinstall this, nor it's attachment bolts. This provides a 'wear strip', in the event the chain is overly loose and should contact the swingarm. With the belt drive, we remove this to provide more clearance around the swingarm. A picture of the location of this rubber slider is below…



14. Cleanup! This is a great time to remove all of the grease impregnated dirt that is captured around the front engine output shaft (countershaft), shifter area around the swingarm pivot, etc. Clean the bike up well, before we begin to install the belt drive components.

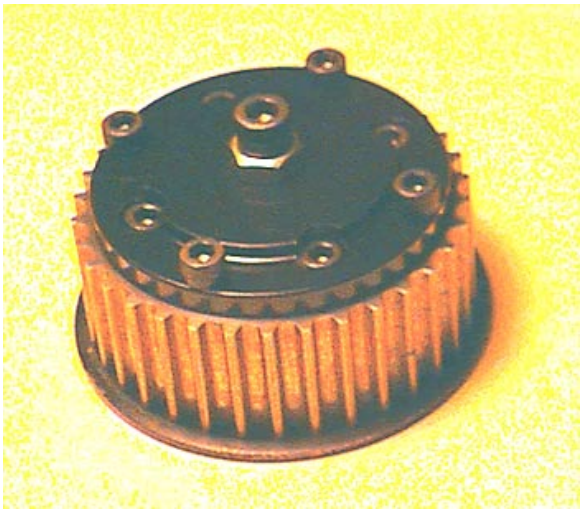
15. Installing the belt… Unpackage and unroll the belt for your belt drive. From behind the motorcycle, slip it forward and through the area where the LH side of the swingarm was installed. 'Hook' the belt around the splined engine output shaft and shifter shaft, leaving the belt hanging out of the rear of the bike where the rear sprocket would be located.

16. Reinstall the swingarm in reverse order of removal. Make sure the spacers (collars) are in the correct location. The belt should be above and below the swingarm when installed. Slip the swingarm pivot bolt into the swingarm from the RH side by passing it through the threaded tube ('adjusting bolt'), and sliding it all the way be through to the LH side of the bike. Make sure to engage the hex feature below the head of the swingarm pivot bolt into the hex hole in the threaded tube ('adjusting bolt'). Using an allen wrench adapter on a torque wrench, tighten the pivot bolt/threaded tube ('adjusting bolt') to 18 ft/lbs. Spin the outer locking ring back onto the threaded tube ('adjusting bolt'), and lock with a small punch and hammer (or tighten with the special tool mentioned in the disassembly process). Reinstall the nut onto

the pivot bolt on the LH side of the bike, and torque to 65 ft/lbs. Reinstall the plastic snap-in caps. Pull the rear of the belt to the inside of the swingarm, in preparation for installation onto the rear pulley. Reinstall the two rear shocks, and torque the 12mm bolts to 20 ft/lbs. The swingarm is now reinstalled, and should be suspended on the shocks.

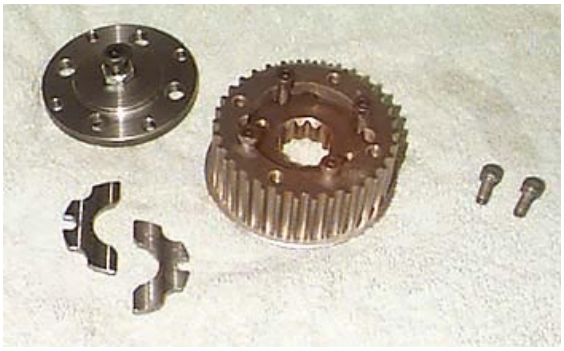
17. Installation of the front pulley… This takes a little time, so be sure to not miss any steps. Correct installation partially determines the life of the drive belt, and is required to ensure long splined shaft life.

Locate the front pulley assembly as shipped in your kit. Notice the photo below… you'll see an allen bolt and locking nut in the center, 4 raised allen bolts around the perimeter, and 4 recessed allen bolts around the perimeter. These are special hardness bolts (8+), hence the black oxide color. Remove the center bolt and locking nut, and place to one side for reinstallation later. **DO NOT** tamper with the 4 recessed allen bolts around the perimeter. Using a 3/16" allen remove the 4 **RAISED** allen bolts around the perimeter. The black cover will usually **NOT** lift off. The holes for the recessed allen bolts are intentionally placed off-center, to provide lateral support for the heads of the 4 recessed bolts. **PAY ATTENTION to the assembly before you disassemble it. You will reassemble it to look the same!**

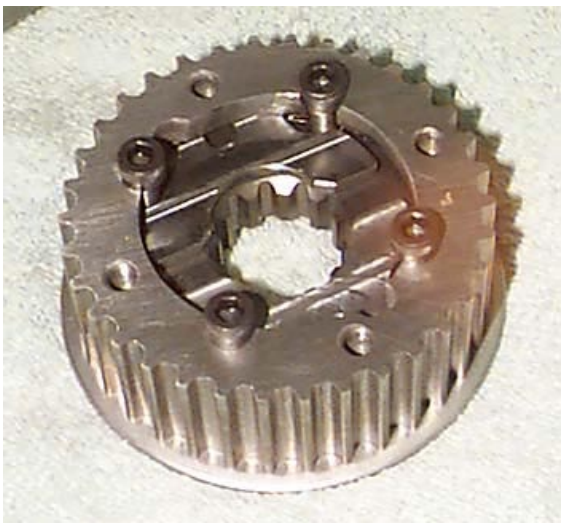


Turn the pulley over in your hand, drop in a deep well socket, and tap with a mallet. The cap will easily pop off, and should require no additional force/prying. See below…

Once the cap is removed, turn the pulley back over and observe the internal features of this component. Using a 5mm allen wrench, remove the two small allen bolts and keeper halves as shown in the photo below. These are the two bolts located adjacent to the splined hole in the center of the pulley assembly, these secure the keeper assembly. See below…



Notice a ***small*** groove around the inner edge of the pulley assembly, where the center splined core meets the outer toothed portion. Slip the new keeper halves into the groove mentioned above, away from the shaft opening. (DO NOT reuse the splined metal retainer that was originally installed on your factory sprocket). A small amount of grease will help hold these keepers in place until the pulley is installed on the shaft.

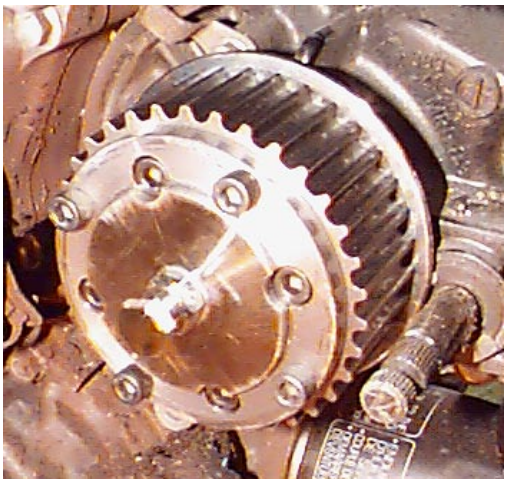


Observe the picture below. The two keeper halves are installed on the pulley, but not secured with the allen head screws. This is how the assembled unit will look when the keepers are in place. See below…

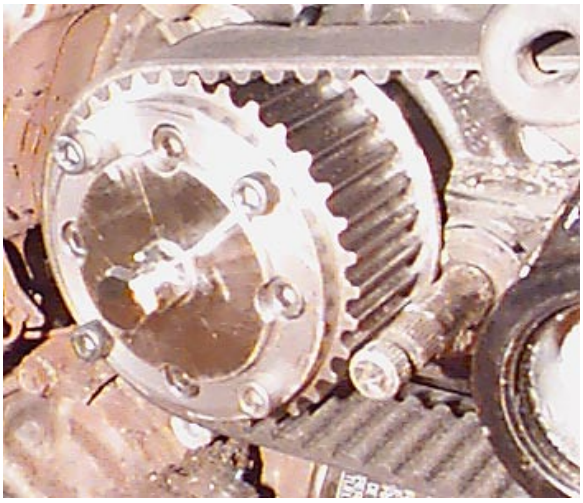
18. Installation of the pulley on the engine…Remove the two allen bolt that we installed above, during the test fit of the retainer, above. Leave the retainers in the pulley, but slip them back in to the groove as before, to allow the shaft to slip through. Slip the pulley onto the engine's splined output shaft until the retainer is in position with the groove on the output shaft. At this point, rotate the retainer until it's bolt holes are again in alignment with those in the pulley, slip the retainer halves into the groove on the output shaft, and reinstall the allen bolts (use a dab of medium strength loctite on these two bolts at this time). Tighten firmly. A photo of pulley assembled on an output shaft is below…

19. Notice a 'dimple' or recess in the end of the engine's output shaft. Remember this, it's where the preload bolt will come to rest… Locate the black cap that was removed from the drive pulley in step 17 above. Place this onto the pulley, aligning the 4 large holes with the 4 bolts protruding from the pulley assembly. Use a rubber mallet or dead blow hammer to gently tap the black cap in place. **Install the cap so that the large hole in the center is towards the shaft!** Reinstall the 4 allen bolts that secure the cap, using a dab of medium strength loctite on these four bolts at this time.

20. Setting pulley outer preload. Clean the bolt, locknut, and center hole with alcohol. Reinstall the center bolt and locking nut with **RED** high-strength loctite (apply to bolt, nut, and hole). Turn the center bolt in (clockwise) until it contacts the end of the engine's output shaft. Tighten to 30 ft/lbs., and lock the nut. **Allow 24 hour curing, before riding.** Below is a picture of the installed pulley. **DO NOT PROCEED if your pulley doesn't look like this!** Notice the grunge in the engine compartment….YUK! It's close to the shifter rod, but it's supposed to be!



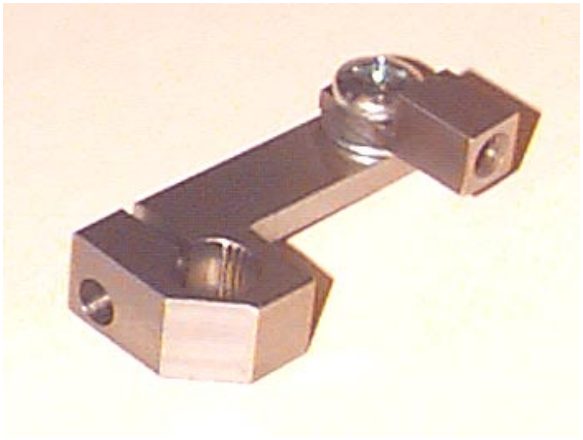
21. Pull the belt up and over the front pulley. The photo below shows the correct routing for the belt, in relationship to the splined shifter shaft…



22. Pull the drive belt back firmly, making sure it is properly seated on the front drive pulley. Pull the aft end of the belt loop rearward, and over the outside of the swingarm. This will keep the belt out of harm's way while the rear

wheel is being installed. Lift the rear wheel into position within the swingarm, with the brake assembly reinstalled in the drum. Push it forward, and slip the belt over the pulley. Move the belt a little to make sure it is properly engaged in the teeth of the front pulley. Pull the wheel rearward enough to align the axle openings in the wheel and swingarm. Reinstall the axle from the LH side, through, through the LH spacer, through the wheel and drum, and through the RH spacer. Install the 27mm axle nut on the RH side, and while holding the 22mm hex head of the axle on the LH side, tighten until just snug. Leave the wheel assembly as far forward as possible in the swingarm.

23. Installing the shifter linkage… The Scootworks shifter linkage has been installed by hand in a previous step. This is the assembly that replaces the OEM shifter linkage:



Slip the linkage onto the transmission shifter shaft as in the photo below…with the flat arm facing outward, and being **STRAIGHT DOWN**. This is VERY important. If you have a problem with this, do not attempt to operate the bike until you contact Scootworks Tech Support. It should be installed as in the photo below…

Install the 10mm pinch bolt from the original shifter linkage, through the hole in the top of the new shifter linkage, and tighten. Loosen the lock nuts on each end of the chrome pushrod connecting to the shifter pedal, and adjust the rod for the desired shifter pedal position. Tighten the lock nuts.

24. Reconnect the rear brake linkage and brake drum tie rod on the RH side of the bike. Leave the rear brake linkage as loose as possible, until the belt tension is adjusted. Adjust the wheel adjusters rearward, setting the rear wheel at approximately 2.5 marks from the front of the bike, on each side of the swingarm. Do not adjust one side all the way to this mark, but rather take each side back about 1 mark on the indicator at the time, alternating from side to side until the recommended position is reached. With the transmission in neutral, spin the rear wheel to make sure everything is free, and nothing is touching or binding. This is a preliminary location to begin the tensioning process.

ADJUSTING THE BELT TENSION

Don't "second guess" the following adjustments, and follow this procedure in it's entirety... Use the Belt Tension Tool supplied with the kit. Also, **_BE SURE_** to read all of the **FAQs** on the Scootworks Belt Drive **_BEFORE_** attempting to 'test drive' your new belt drive system. **Correct initial adjustment is critical to the long life of your new belt! Please remember that the belt, while strong, is not indestructible! Performing wheelies, burnouts, or excessively hard acceleration at a low speed can result in damage to the belt.**

With the bike on a lift and the rear wheel off of the ground, rotate the tire while "plucking" the belt. Note the location of the wheel when the belt tension is highest. Place a mark on the tire pointing straight down with the wheel in this position. Remove the bike from the lift, and position the bike with the tire mark pointing straight down. Using the Scootworks Belt Tension Tester supplied with the kit, perform the following test: The bike should be on level ground, transmission in neutral, and a **RIDER** of similar weight ***ON***. Place a ruler along the leading edge of the swingarm at belt mid-point (1/2 way between the front and rear pulleys), to measure the belt deflection**. Using the tension tester supplied, apply 10 lbs of force upward on the return side (bottom) of the belt at mid-span (half way between the front and rear pulleys)**. The belt should be adjusted to deflect between 3/16" and 1/8" with 10 pounds of upward force initially, closer to 1/8" in cases of higher payload or "more spirited" riding habits. Use no more, and no less (no looser than 3/16" @ 10 pounds!!) than these recommended values.

Once the Belt Drive is adjusted per the above instructions, torque the rear axle to 69 ft/lbs., and perform a road test. There are many variables with individual motorcycles that make it impossible to provide exact setting values for the indicators of rear wheel adjusters. That's why the tension measurement is the correct way to adjust belt tension. Take the motorcycle out on the road for a quick test. If you get any ratcheting of the belt (jumping or slipping) during **normal** operation, tighten both adjusters an amount of 'two flats of the adjuster bolt heads' (approximately 1/3 revolution). Test again. Continue, until no additional ratcheting occurs, and tighten an additional 1 flat. Tighten the rear axle, reinstall the chain guard (if desired), and ride! **DO NOT continue to ride, if the belt is ratcheting!** Continual operation with a ratcheting belt, **will** cause premature belt failure.

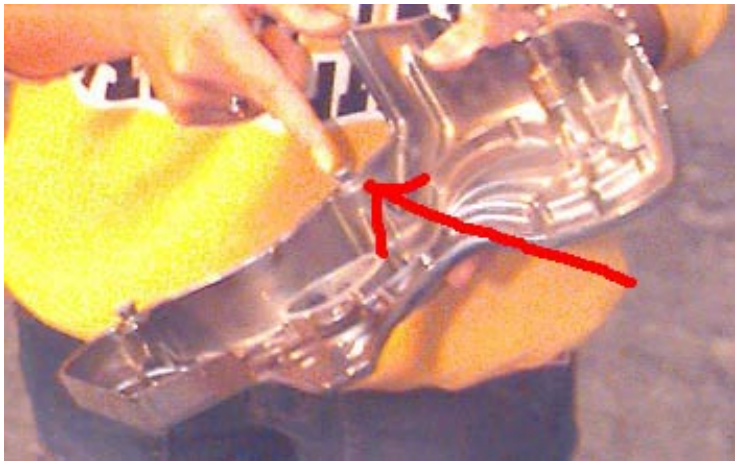
Once adjusted, we recommend that you perform is what we call a "pick check". When the belt is "picked" along the edge like a guitar string, it will generate a tone. Observe this when the belt drive installation is new, and use it as a point of reference during the life of your belt. It may sound silly, but it has held true on all of the systems we've installed locally over the last few years, and is a common practice among those who service belt driven motorcycles.

NOTE: CHECK THE FRONT PULLEY PRELOAD BOLT TIGHTNESS AT 250 MILES. CHECK BELT TENSION AND FRONT PULLEY PRELOAD BOLT AGAIN AT APPROXIMATELY 1000 MILES AFTER INSTALLATION.

It is very important to check the front pulley preload bolt and belt tension as outlined above (250 and 1000 miles), and re-adjust it if necessary. There should be ONLY ONE more adjustment needed after that, but as with any good maintenance program, you should always be aware of your belt tension, and check it periodically.

25. Finally…the internal mods to the front chrome sprocket cover…and you're ready to ride! First, locate the chrome front sprocket/pulley cover removed in step #7. Remove most of the tubular protrusion found on the inside. This is not a critical modification, and can be easily done with a hacksaw blade or dremel tool with cut-off wheel. Reference the photo below for this simple modification.

Locate the two mushroom shaped posts on the backside of the cover. There are used to insert through the rubber grommets on the frame, when the cover is installed. Grind, cut, or file the points off of these, at the point where they are largest in diameter. This is to provide belt clearance in 'worst case' belt location scenarios. Smooth the remaining edge with sandpaper or a small file, slightly, to allow them to pass through the frame mounted rubber grommets easily. See the photo below…



Reinstall the cover on the bike, and view from below to make sure the pegs are shortened enough to provide adequate clearance for the belt. The rubber grommets are mounted on small sheet metal tabs attached to the frame, and may need to be moved a small amount if clearance is an issue. The belt doesn't move from side to side, so only a small amount of clearance is required.

Reinstall the chain guard. Pay particular attention to the front attachment, as the belt will *_just barely_* fit through there. You may need to push the sheet metal clip away from he belt slightly, to provide adequate belt clearance when the chain guard is on. **MAKE SURE** the rear chain guard bolt is the factory bolt, and does not contact the rear pulley or lug nuts when installed.

Additional notes:

1. Torque values:

§ Swing arm pivot shaft nut: 65ft/lbs
§ Swing arm pivot bolt: 18ft/lbs
§ Shock absorber bolts: 20ft/lbs each
§ Drum Link nut: 14ft/lbs
§ Rear axle nut: 65ft/lbs
§ Rear sprocket nuts: 65ft/lbs
§ Front pulley preload bolt: 40 ft/lbs

2. Don't forget to install the cotter pin in the rear brake drum tie rod bolt.

3. Reinstall the chrome cover for the front pulley using a 5mm Allen wrench. Don't forget to reinstall the spring clip in the upper rear of this cover.

Maintenance

There isn't a lot of maintenance required for the belt drive system. Check the belt tension periodically, and keep the system free of dirt and debris.

Occasionally, inspect the torque of the front pulley preload bolt (in the center of the pulley). I recommend to check this at 250 and then 1000 miles, and then again about every 10,000 miles afterward.

FAQ's (Frequently Asked Questions)

Installation Related FAQs

Question- Does the Scootworks Belt Drive system require any additional materials, fasteners, etc. for installation?
Answer- The Scootworks Drive System comes complete with all parts needed for installation, including detailed step-by-step instructions. One only needs to supply medium and high strength loctite thread locking compound. Some of the original hardware is reused in the installation.

Question- How long does it take to install a Scootworks Belt Drive?
Answer- We've had dealers install these systems in about 2 hours, and I've installed these in my personal shop in just over 1.5 hr, by myself. Conversely, I've had some people report that their local dealership charged them for as much as 8 hours of labor... So, this obviously depends on many variables. Items such as the speed of the individual performing the installation, stuck fasteners, contamination of components to be removed, tools available, problems understanding instructions, individual skillsets, etc are beyond our control. A good rule of thumb for a person performing a first time installation is approximately 3 hours. Remember, we are only an email or phone call away, to answer any of your questions.

Question- Will I have to cut or modify anything to get the Scootworks Belt Drive system on my bike?
Answer- A minor modification is required to the inside of the front engine's chrome plated sprocket cover. Read the instructions in step #25 above for the full details. It is a simple mod, easily done with common hand tools.

Question- Will the Scootworks Belt Drive require an additional belt guard? The bike in your pictures has the belt exposed and I'd like to cover it to keep rider's feet safe.
Answer- The Scootworks Belt Drive was designed to retain the use of your existing chain guard. There are no clearance problems and the OEM chain guard works nicely with your new belt drive system.

Question- When I received my Scootworks Belt Drive, I examined everything closely. I accidentally turned the belt "teeth out", and folded it together. A white stripe appeared in between two teeth of the belt. Is it OK to install it anyway??
Answer- No, do not install this belt. While the belt has a tensile strength higher than a #60 steel chain, the tensile members within the belt composition is not designed to fold or bend tightly. Never bend the belt smaller than about 1 1/2", and absolutely _never_ bend it inside out (as if you're inspecting the "teeth" closely). This will damage or break the tensile members, and lead to premature failure.

Question- Does the swing arm have to be removed for installation?
Answer- Yes, just like with the installation/replacement of the OEM one piece O-ring chain, the swing arm must be removed. It may sound scary, but is really quite simple and is outlined both in the shop manual and in the instruction booklet supplied by Scootworks. The only thing special is the requirement that the back wheel be raised to remove the swing arm (just as in the chain replacement procedure). If you have your work done by a mechanic, he wouldn't encounter anything different from a conventional chain replacement job.

Question- When I tried to adjust the rear wheel, I noticed that the pulley flange contacts the stud on the swingarm where the LH shock fits.
Answer- Carefully adjust the rear wheel rearwards when tensioning the belt, about 2-3 revolutions on the adjusters at the time. Alternate from side to side with the adjustment, to keep the wheel relatively straight in the swingarm while adjusting. The clearance between the pulley flange and the shock mount is very close.

Question- I received my Scootworks Belt Drive, but am unsure of the correct direction of installation for the rear pulley. Which side of the pulley should be turned towards the hub of the wheel?
Answer- One side of the pulley is much deeper than the other. The deep side faces the rear hub/wheel.

Question- While installing my chrome rear pulley, I noticed a small groove in the chrome on the teeth, in the approximate center of the rear pulley. There are also sharp edges on some of the teeth.
Answer- This is normal, and the edges and groove will wear away quickly. When chrome plating the rear pulley, we must hang the pulley in an area that isn't seen during normal operation, as the metallic hangar will repel chrome during the plating process. Additionally, we wish to minimize the chrome accumulation in the toothed area of the pulley, so suspending the pulley from the toothed area solves two issues at once. This will not damage the belting, and will disappear soon after installation and operation.

Question- I'm going to remove my belt/swingarm to perform other modifications to my bike. Are there any precautions I need to observe when reinstalling a used belt?
Answer- Inspect the belt for any physical damage. If there is any damage, now is the perfect time to replace it..it's very inexpensive. If you decide to reinstall the old belt, be sure to mark it's original direction of installation, and reinstall it so it runs in the same direction it originally did.

Question- When I installed the OEM sprocket securing acorn nuts back onto the mounting studs, they did not thread down far enough to contact the pulley.

Answer- I have seen a few rear hubs that had "screw-in" studs. Check your hub and see if you have the version with studs. They can screw out a bit during removal of the sprocket.

Question- After a bit of riding, I heard a noise and discovered the front pulley preload bolt had become loosened.
Answer- Loosen the belt to remove tension from the front pulley. Remove and clean the preload bolt, locknut, and bolt hole with alcohol to remove any oils. Apply **RED (High strength)** Loctite (or similar thread locking compound) to the bolt, locknut, and inside of the bolt hole. Install the bolt, and torque to 40 ft/lbs. Lock the nut tightly against the pulley. Allow 24 hours for curing. Retension the belt, and ride. Recheck the front bolt for loosening at 250 and 1000 miles, to be sure it is properly locked.

Tensioning/Tension/Belt Tracking Related FAQs

Question- I currently have to adjust my chain every 1000-2000 miles. I have a friend with a belt driven bike, and he has to tension his belt also. Will I have to periodically adjust my belt tension?
Answer- Chains stretch across their entire life span. Cord reinforced rubber drive belts used on some motorcycles also stretch. The composition of the belt used in the Scootworks Belt Drive doesn't lend itself to stretch the way conventional belts do. Usually, after initial installation, the Scootworks belt will need a minor tension adjustment after 'break in' (somewhere around 1000 miles, depending on rider). This tension adjustment is due to several variables that occur during break-in :

The belt will wear to match the exact contour of the drive pulleys. Paint wears away from the teeth of the front drive pulley. Chrome plating and/or paint wears away from the teeth of the rear drive pulley. A very small amount of belt elongation when new (usually only a few thousandths of an inch!)

It's virtually maintenance free.

Question- I'm not sure I have the belt tension set correctly. Are there any simple methods to use as a starting point?
Answer- Sure. Correct belt tension is easy to accomplish, with very little practice. Don't "second guess" the following adjustments, and follow this procedure in it's entirety... Use the Belt Tension Tool supplied with the kit. Also, **_BE SURE_** to read all of the **FAQs** on the Scootworks Belt Drive **_BEFORE_** attempting to 'test drive' your new belt drive system. **Correct initial adjustment is critical to the long life of your new belt! Please remember that the belt, while strong, is not indestructible! Performing wheelies, burnouts, or hard acceleration at a low speed can result in damage to the belt.**

With the bike on a lift and the rear wheel off of the ground, rotate the tire while "plucking" the belt. Note the location of the wheel when the belt tension is highest. Place a mark on the tire pointing straight down with the wheel in this position. Remove the bike from the lift, and position the bike with the tire mark pointing straight down. Using the Scootworks Belt Tension Tester supplied with the kit, perform the following test: The bike should be on level ground, transmission in neutral, and a **RIDER** of similar weight ***ON***. Place a ruler along the leading edge of the swingarm at belt mid-point (1/2 way between the front and rear pulleys), to measure the belt deflection**. Using the tension tester supplied, apply 10 lbs of force upward on the return side (bottom) of the belt at mid-span (half way between the front and rear pulleys)**. The belt should be adjusted to deflect between 3/16" and 1/8" with 10 pounds of upward force initially, closer to 1/8" in cases of higher payload or "more spirited" riding habits. Use no more, and no less (no looser than 3/16" @ 10 pounds!!) than these recommended values.

Once the Belt Drive is adjusted per the above instructions, torque the rear axle to 69 ft/lbs., and perform a road test. There are many variables with individual motorcycles that make it impossible to provide exact setting values for the

indicators of rear wheel adjusters. That's why the tension measurement is the correct way to adjust belt tension. Take the motorcycle out on the road for a quick test. If you get any ratcheting of the belt (jumping or slipping) during **normal** operation, tighten both adjusters an amount of 'two flats of the adjuster bolt heads' (approximately 1/3 revolution). Test again. Continue, until no additional ratcheting occurs, and tighten an additional 1 flat. Tighten the rear axle, reinstall the chain guard (if desired), and ride! **DO NOT continue to ride, if the belt is ratcheting!** Continual operation with a ratcheting belt, **will** cause premature belt failure.

Once adjusted, we recommend that you perform is what we call a "pick check". When the belt is "picked" along the edge like a guitar string, it will generate a tone. Observe this when the belt drive installation is new, and use it as a point of reference during the life of your belt. It may sound silly, but it has held true on all of the systems we've installed locally over the last few years, and is a common practice among those who service belt driven motorcycles.

NOTE: CHECK THE FRONT PULLEY PRELOAD BOLT TIGHTNESS AT 250 MILES. CHECK BELT TENSION AND FRONT PULLEY PRELOAD BOLT AGAIN AT APPROXIMATELY 1000 MILES AFTER INSTALLATION.

It is very important to check the front pulley preload bolt and belt tension as outlined above (250 and 1000 miles), and re-adjust it if necessary. There should be ONLY ONE more adjustment needed after that, but as with any good maintenance program, you should always be aware of your belt tension, and check it periodically.

Question- It appears there is approximately a 4" section where the belt is wider than the rest. When this portion of the belt runs back into the rear pulley it makes a disturbing sound as the belt rubs down and into the teeth on the pulley.
Answer- It's not unusual to find areas of the belting that may be slightly wider than others, as these belts are sliced to correct width on a rotating drum at low speed. The belt should track to the left hand side of the pulley on the rear, and to the RH side of the front pulley...this is intentional. Tension the belt per our instructions, and make sure both rear wheel adjusters are at the same point for "straight" tracking" of the wheel. It will take 50-100 miles for the belt edges to "wear in", while it's fitting itself to your individual installation. Don't let the noise of the belt edges bother you during break-in, as this is normal.

Question- I don't want to run my belt as tight as recommended by Scootworks. Can I operate with the belt a little slack?
Answer- No. If the belt is loose (even a "little"), the mechanical shock generated when placing the bike into gear as well as that of the vibration transmitted from the engine to the drive train, will destroy the belt. A loose belt will allow the input pulley to generate transients many times greater than would normally exist in normal operation. Additionally, micro-oscillations will occur along the length of the belt's lower track that will destroy the Kevlar in the belt and lead to premature belt failure. The leading cause of premature belt failure is under-tensioning. Adjust the belt to the correct tension as recommended by Scootworks.

Question- My belt seems to jump teeth occasionally, under normal to moderate acceleration. Is something wrong?
Answer- The belt should **_NEVER_** jump during normal use. As with any belt drive, no matter of manufacture, it is possible to cause it to jump (and even destroy it) during heavy acceleration, when doing burnouts or attempting to pull "wheelies". If your belt jumps during normal to moderate acceleration, check to make sure you have it adjusted the dimension outlined in the belt tension instructions. If the problem persists, increase the tension by adjusting the rear wheel adjusters in 1/3 revolution steps (2 flats on the adjuster nuts), and repeat the test. A single 1/3 revolution increase in tension can make a considerable improvement in performance. Most often, this problem occurs when a new drive is installed and is not adjusted correctly, but can occur after the belt has past the initial break in period and requires a minor adjustment.

Question- I know how to install and adjust a belt, and don't care to bother with the tension tool if the belt tension feels OK to me. Is it really that important to use the tool, or do I just need it for the initial installation?
Answer- I really wish we could call this something other than a belt, because I've answered this question many, many times. The only similarities between our belting and conventional belting that most are familiar with, is the fact that it is a continuous loop of semi-flexible material. Try to forget anything else you know about belting, including the common myths that exist about motorcycle drive belts. The single most common cause of premature belt failure is under tensioning. Micro-oscillations in the return track of the belt, as a result of incorrect tensioning, will destroy the tensile members in short order. Often, a belt adjusted out of spec as little as 1/16"-1/8" @ 10 lbs. will destroy a belt that would otherwise last for tens of thousands a miles. It's almost impossible to distinguish this difference by "feel" or see it with the human eye. This is the reason our kits are supplied with the tool…to insure this adjustment is made correctly. The good thing is, once the initial and break-in adjustments are made, you can almost forget about your drive system. The tool makes this adjustment accurately, and is VERY easy to use. Be sure to read the installation instructions completely, and familiarize yourself with the tool. There is a separate instruction and FAQ on our website at www.scootworks.com for the tool, in the event you would only like to read about that.

Question- How tight does the belt need to be? I was afraid to get it too tight for fear I might snap it. How tight is too tight?
Answer- These belts are STRONG! You can literally lift an automobile off the ground with this type of belt. Follow the belt tension instructions and the belt drive will perform correctly.

Question- My drive belt has begun tracking to the LH side of the front pulley, and into to outer chrome cover.
Answer- This can be caused by a loosening of the preload bolt in the center of the front pulley. Loosen the belt to remove tension from the front pulley. Remove and clean the preload bolt, locknut, and bolt hole with alcohol to remove any oils. Apply **RED (High strength)** Loctite (or similar thread locking compound) to the bolt, locknut, and inside of the bolt hole. Install the bolt, and torque to 40 ft/lbs. Lock the nut tightly against the pulley. Allow 24 hours for curing. Retension the belt, and ride. Recheck the front bolt for loosening at 250 and 1000 miles, to be sure it is properly locked.

Performance Related FAQs

Question- Does the Scootworks Belt Drive reduce acceleration?
Answer- There is some minor reduction in acceleration from start is a little less than the OEM chain drive and sprocket installation. This is due to a reduction in the final drive ratio. However, there is a very noticeable reduction in engine RPM's at cruising speeds, making the ride much more relaxed. The reason for the difference is due to the change in ratios used by Scootworks in the belt drive system. One of the design criteria was to reduce engine speed to make hiway speed operation more enjoyable, and to improve gas mileage.

Question- What gear ratio have you selected for the Honda belt drive, and will I loose horsepower or top end speed??
Answer- The engine will produce the same horsepower, irrespective of the final drive ratio. Power to the ground will increase a bit, as the belt drive efficiency is about 98% vs. a chain being in the mid-80% range (at it's best!). Since the power band is at a different vehicle speed, you'll notice some difference in acceleration at different speeds. Top speed will remain the same, as the amount of HP developed by the engine will only do a certain amount of work.

The bike may not leap out of the hole as it did (by comparison), depending on the year model of your bike. The earlier models were geared at a ridiculously low ratio, eventually improved by Honda in later models. The later models were shipped from Honda with 2.41:1. Many riders commonly swap the sprockets to result in ratios of 2.22:1 or higher.

Most every chain driven metric cruiser on the market today comes geared to give the best "around town" performance, yet lack a bit on the open road due to high cruising RPMs.

The belt drive is shipped as 2.15:1, and was optimized at that ratio after much experimentation with ratios from 2.05:1 through 2.50:1 and thousands of miles in all sorts of terrain.

Squeaks/Sounds/Noises Heard FAQs

Question- My Belt makes a slight 'squeak' when I roll the bike slowly. Is there anything I can do for this?
Answer- This is normal for the technology and fit we use in the WideDrive. An old "trick" used by many belt driven motorcycle owners of all brands, is to occasionally rub the edges of the belt with a bar of soap to eliminate "dry squeak". The "squeak" is usually caused by small particles of dirt that become embedded in the belt while riding, and/or by a clean and dry belt while rubbing against the edge of the pulley flanges (much like rubbing a clean finger around the top of a wine glass). A little dry soap will "lubricate" the edge of the belt, and eliminate "ringing" or "squeaking", should it occur.

Question- I've noticed a 'howl' or 'whine' from my belt at certain speeds. Is this normal??
Answer- It is normal for the belt to exhibit a small 'howl' or 'whine' at some speed between 25-45 mph, once break-in is completed. This is simply the point where resonance is achieved between the belt tension and the rate that the belt's teeth strike the pulleys. A new belt will often be a bit noisy for the first few hundred miles, while it is wearing to match the contour of the front and rear pulleys.

A belt that 'howls' at a wide range of speeds usually indicates a slightly over tensioned belt. Overtensioning isn't typically a contributor to premature failure (as is undertensioning!), but is a bit annoying. Loosen the belt tension slightly, but stay at or above (tighter) the recommended 1/8" tension setting. I usually loosen the rear wheel adjusters by only 1 flat each, while making this adjustment. Measure the tension, road test, and repeat if necessary. Once adjusted, this doesn't need to be repeated in the future.

Question- After a bit of riding, I heard a noise and discovered the front pulley preload bolt had become loosened.
Answer- Loosen the belt to remove tension from the front pulley. Remove and clean the preload bolt, locknut, and bolt hole with alcohol to remove any oils. Apply **RED (High strength)** Loctite (or similar thread locking compound) to the bolt, locknut, and inside of the bolt hole. Install the bolt, and torque to 40 ft/lbs. Lock the nut tightly against the pulley. Allow 24 hours for curing. Retension the belt, and ride. Recheck the front bolt for loosening at 250 and 1000 miles, to be sure it is properly locked.

Misc. FAQs

Question- I recently saw a HD Belt, and it was very large. Is the Belt used in the Scootworks Belt Drive of an adequate size for my bike?
Answer- Many of the older belts for H-D systems were large, as they used an older technology. Many are simple rubber timing belts with a fiber reinforcement. The newer belt driven bikes use a technology incorporating modern

materials in their construction, making them much stronger as well as much smaller. The belt used in the Scootworks Belt Drive is one such belt, and has a higher tensile strength than a #60 steel roller chain. It has been road tested for thousands of miles, and is more than adequate for the application.

Question- Is there any danger in damaging the output shaft bearing of the engine, due to the tension required by a belt?
Answer- An engineering study was performed on the installation, taking into consideration the tension of the belt, additional load presented by the engine, the location of the shaft bearings on the shaft, and the type of bearings used by Honda in the design of the output shaft. Load data indicated that the shaft loads were well within the bearing design parameters. Feedback from field testing has indicated that no additional wear has occurred in the bearings of the output shaft and drive system free motion is unchanged.

Question- Is there any lubrication or other maintenance on the belt drive after it's installed?
Answer- Usually only once, at about 1000 miles. Once the belt drive is installed with the proper tension on the belt, the only other adjustment is a minor retensioning after break-in. ...unlike a chain which requires lubrication every 600 miles. Chains normally stretch over time and require periodic readjustment. The Scootworks Belt drive uses a belt similar to that used on other "modern" belt driven motorcycles. Since there is no belt stretch (well, only about .002"!), the system requires no adjustment. A great by-product of having a belt drive instead of a chain is the fact that you no longer have all that grease and grime to clean from your rear wheel, tire and rim that a chain will deposit there.

Question- Does Scootworks have a Warranty of any type? I've looked all over the web site and couldn't find anything.
Answer- Certainly! Scootworks Inc. warrants the workmanship of all materials sold, to be free of defects for a period of twelve (12) months from the date of purchase. As with any other belt drive manufacturer, the belt is warranted to be free of defects at the time of purchase only. You can find more information on the first page of the Scootworks Web Page, at the bottom of the page under ‘Warranty & Return Policies’.

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