

# Important Information

**ATTENTION, BEFORE INSTALLING STUDS IN YOUR SNOWMOBILE TRACK READ AND UNDERSTAND THE INFORMATION BELOW AND THE IMPORTANT SAFETY INFORMATION ON THE REVERSE SIDE:**

- If the instructions for products manufactured or sold by International Engineering & Mfg., Inc. are damaged or removed, before proceeding, download the instructions from [www.WoodysTraction.com/installation-instructions](http://www.WoodysTraction.com/installation-instructions) or contact Woody's for faxed or mailed instructions.
- **Never install studs in a damaged or deteriorating track. Consult the snowmobile/track manufacturer's inspection instructions.**
- The turning force of the skis as effected by runner configuration must be balanced with the number of studs installed in the track.
- A snowmobile track typically has a center belt and two smaller width side belts that control acceleration and deceleration. Woody's does not advise installing more studs in the smaller outside belts than recommended in our trail template patterns. Installing more studs in that location than recommended could change the amount of force needed to turn or alter the balance of studs and carbide runners. If a competition pattern is utilized for racing, do not install any additional studs in the outside belts than set forth in the pattern.
- Confirm the stud you have chose to install meets Woody's recommendation for optimum penetration of .250" to .375" (6mm to 10mm) over the lug. Always confirm the allowable clearance between the track and the tunnel and/or the heat exchangers.
- Replacement tracks - particularly if the lug is taller than the original track lug height. You must confirm clearance for the amount of the stud protruding over the lug.
- **Verify that your sled has proper tunnel protection.** Do not install studs under the tunnel protector strips. The integrity of the tunnel protectors is vital and must not be subjected to possible damage.
- Always use Woody's® lock nuts, support plates, templates, installation tools and accessories to install your studs. This will provide maximum traction and control plus longevity of the product. Proper installation will help prevent track damage and protect your Woody's warranty.

## Stud Installation Instructions

Review the snowmobile and track manufacturer's studding recommendations in your owner's manual. You may void your warranty if their recommendations are not followed. Consult your snowmobile dealer about added tunnel protection.

Woody's Application Guide is a great reference tool for the proper length and quantity of studs, template and patterns, and the corresponding carbide runner; located on <http://appguide.woodystraction.com>.

\* There are two separate series templates, two-ply and single-ply, and are not interchangeable. For example - Grand Master® studs are for single-ply track application and require single-ply track template instructions.

### TRACK HOLE PREPARATION For Pre-Holed Tracks Skip to Step 4

- Tools Needed: Track Drill, Power Drill & Template      Optional Tools: Track Marker & Side Cutters
1. Mark the stud pattern on the entire track. Follow the directions on the Woody's® template (if directions are not available, download them from our website or contact us for a faxed or mailed copy) and use a Woody's® Track Marker to indicate the pattern you have chosen on your track. (figure 1) **Note: When using Angled Digger® support plates follow the directions provided in the package. You need to adjust the hole locations for proper installation.**
  2. Before drilling, confirm there is clearance for the track drill to protrude on the other side of the track to prevent damage to other components, such as idler wheels. Note: When using Woody's track drill follow the instructions provided in the package. Drill holes as marked or indicated by the snowmobile/track manufacturer using a Power Drill and Woody's® Track Drill (**Part# DRIL-UNIV**). (figure 2)
  3. Once holes are drilled, use side cutters to remove any excess rubber around the holes that may not have been removed by drilling.

Continue to I or II below:

### I INSTALLING PUSH-THROUGH STUDS

Tools Needed: Stud Hex Tool or 5/32 (4mm) Allen Wrench, Torque Wrench,      Optional Tools: Second Ratchet Wrench for Index Tool, Ratchet Wrench, 7mm stud = 7/16" (11mm) Deep Well Socket,      Indexing Tool  
5/16" stud = 1/2" (13mm) Deep Well Socket

Start with steps 1 through 3 under Track Hole Preparation.

4. Push the stud through the hole from the inside of the track. (figure 3) On the outside of the track, place the domed Digger® support plate over the stud with the cup portion of the hollow dome toward the track, and then place the lock nut on the exposed stud. Thread the nylon locknut onto the threaded stud and turn the nut clockwise with your hand until it no longer turns preventing the likelihood of cross threading. (figure 4) **Note:** To preserve Woody's warranty, install Woody's® Digger® support plates & follow the installation instructions in the package. The front and side edges of Woody's® Square Digger® support plates must be aligned perpendicular to the edge and lugs, respectively, of the track. (figure 5) Use a Woody's® Indexing Tool for this alignment. Note: When installing Woody's® alternate nuts follow the installation instructions in the package.
5. Use a Stud Hex Tool to hold the stud (figure 6), tighten the nut with a 7/16" (11mm) or 1/2" (13mm) deep well socket on the ratchet wrench (figure 7) until the domed Digger® support plate's bottom contacts the shoulder of the stud and you reach 15 ft. lbs. of torque. (8-10 ft lbs. for 1/4-28 push through studs) (figure 8 & 8A) Replace with a new nut if any of the below occur.
  - A. When tightening the nut, it is important not to strip the nut threads. This is a condition in which a nut has damaged threads as a result of too much torque or force applied to it. A stripped nut is ineffective and will not hold or reach the specified torque requirements. Remove a stripped nut with lock-type pliers and replace with a new nut.
  - B. In addition, the sides of the hex nut can wear down and become rounded from repeated twisting or if an incorrect wrench size is used to tighten the nut. As the wrench slips, it wears down the edges until you can no longer get a grip on the nut allowing for proper torque. Remove the rounded hex nut with lock-type pliers and replace with a new nut.
  - C. When you install the nylon locknut on the stud, the nylon insert wraps around the threads and locks the nut in place. Inspect the nylon insert of the locknut to ensure that it is intact after each installation. If it is not intact, replace the nut.

Replacement nuts can be purchased online at [www.WoodysTraction.com](http://www.WoodysTraction.com).

6. **IMPORTANT** - For proper installation, optimum wear and performance use a torque wrench. You must torque and maintain the nut to 15 ft. lbs. (8-10 ft lbs. for 1/4-28 push through studs) (figure 9)
7. **After the initial installation and after each use, check the torque of the nuts.**

### II INSTALLING T-NUT STUDS & SNAP-OFF® STUDS

Tools Needed: 3/8" (10mm) Deep Well Socket, Loctite® 262,      Optional Tools: T-Nut Puller & Track Saver™ Tool  
Ratchet Wrench, Pliers or Side Cutters, Torque Wrench, File

Start with steps 1 through 3 under Track Hole Preparation.

4. **INSTALL THE T-NUT (To Install Snap-Off® Studs Skip To Step 8)**
1. To simplify the installation, push Woody's® T-Nut Puller tool through the hole from the outside of the track. (figure 10) (**Part# AIT-4290 1/4"-20 Thread Size/Part# AIT-4280 7mm Thread Size**)
5. The threaded end of the T-Nut Puller tool will protrude through to the inside of the track. Screw a T-Nut on the T-Nut Puller tool protruding on the underside of the track.
6. On the outside of the track place a 3/8" (10mm) deep well socket on a ratchet on the T-Nut Puller tool. Begin ratcheting the T-Nut Puller tool to pull the T-Nut up to the hole until it is flush with the track. (figure 11)
7. **REMOVE THE T-NUT PULLER TOOL**
8. Use the Track Saver™ tool to hold the T-Nut secure on the inside of the track, then with a 3/8" (10mm) socket and ratchet begin ratcheting the T-Nut Puller tool to remove it. (figure 12)
9. **INSTALL THE STUD AND DIGGER® SUPPORT PLATE**
10. Slide the domed Digger® support plate onto the stud. (figure 13) Place Loctite® 262 (**Part# LOC-2620**) on the T-Nut threads and stud threads closest to the hex by following the directions on the bottle.
11. Insert the stud with Digger® support plate into the prepared opening. (figure 14) Holding the T-Nut with the Track Saver™ Tool, hand tighten the stud into the T-Nut. Using a 3/8" (10mm) ratchet, tighten the stud further to 8-10 ft. lbs. of torque.
12. **IMPORTANT** - For proper installation and optimum wear and performance use a torque wrench. You must torque and maintain the T-Nut/Snap-Off stud to 8-10 ft. lbs. (figure 15)
13. **The Loctite® Threadlocker must be allowed to dry for 24 hours at 70° after the installation of the stud is complete.**
14. The Snap-Off® stud will have a portion of the threads protruding above the T-Nut. Use pliers or side cutters to remove this protruding piece. (figure 16) In rare cases the stud will not break cleanly off, leaving part of the connector material that is between the two threaded portions. This must be removed because it could interfere with the idler wheels. Use a file to remove the connector material that may protrude above the flush T-Nut until the stud is flush with the underside of the track. (figure 17)

### RETORQUING PUSH-THROUGH, T-NUT & SNAP-OFF® STUDS

Tools Needed For Push-Through Studs: Torque Wrench, Ratchet Wrench, Stud Hex Tool & 1/2" (13mm) or 7/16" (11mm) Deep Well Socket  
Tools Needed For T-Nut & Snap-Off® Studs: Wicking Loctite® 290, Torque Wrench, Ratchet Wrench & 3/8" (10mm) Deep Well Socket

1. After each use check the torque of the stud or nut. If you need to retighten, first clean the area of any debris.
  - For T-Nut/Snap-Off® studs - Use a torque wrench to retorque the T-Nut or Snap-Off® stud to 8-10 ft. lbs. (figure 18) Then apply Loctite® 290 (**Part# LOC-2900**) to the exposed threads where the fastener meets the threads by following the directions on the bottle.
  - For Push-Through studs - Retorque to 15 ft. lbs. **Note: Prior to retorquing the nut this may be an appropriate time to review the OEM or track manufacturer's track inspection instructions to examine the condition of the track and clips for wear and/or lost parts. At the same time examine the condition of the studs and support plates. Realign and/or replace if needed.**
2. Follow steps 5A through 5C under Installing Push-through Studs.

### AFTER STUDDING

- The snowmobile manufacturer has track tension specifications in your owner's manual. Using Woody's® Track Tension Tool (Part # TRAK-TOOL) and the instructions enclosed in the package check and adjust your track tension as recommended by the snowmobile or track manufacturer. Refer to the manufacturer's owner manual on routine track tension maintenance.
- After studding it is important that you anchor your snow flap to the chassis. Install Woody's® Snow Flap Kit (Part # MUD-STRAP) per the instructions included in the package to prevent flying debris.



Figure 1

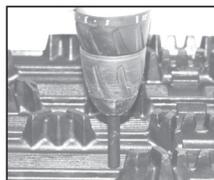


Figure 2



Figure 3



Figure 4



Figure 5



Figure 6

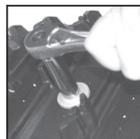


Figure 7

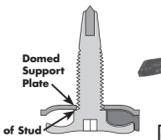


Figure 8A

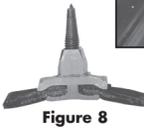


Figure 8



Figure 9

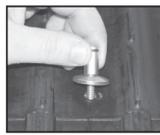


Figure 10

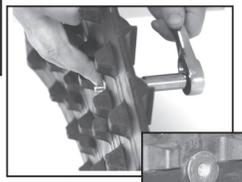


Figure 11

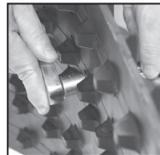


Figure 12



Figure 13



Figure 14



Figure 15

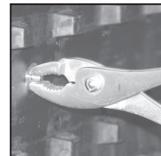


Figure 16

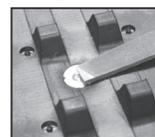


Figure 17



Figure 18



## IMPORTANT SAFETY INFORMATION

### READ BEFORE INSTALLING STUDS AND RUNNERS

Throughout these warnings, the term **Personal Injury** - includes but is not limited to bruises, contusions, lacerations, broken bones, infection, loss of sight or hearing, limb amputation, and death.

The term **Damage to Snowmobile and Personal Property** - includes but is not limited to damage to the tunnel, bulkhead, cooling system, suspension, skid frame, engine, idler wheels, and the track. Damage could also occur to nearby objects and structures such as vehicles and buildings.

Keep in mind that after the installation of Woody's traction and control products the performance of the snowmobile, as it relates to acceleration and steering, will be dramatically affected. Acceleration may cause the front of the snowmobile to lift rendering it impossible to steer until the skis firmly re-engage the terrain; also, if the directions concerning the number of studs relative to the proper size of turning carbide are not followed, installation of an excessive number of studs will cause the snowmobile to exceed the steering capabilities so that it will proceed straight when the operator intends a turn, a condition known as "understeer". On the other hand, if too few studs are used compared to the size of turning carbide, the opposite result may occur, and the rear of the snowmobile will swing toward the outside of the turn, a condition known as "oversteer". Visit [www.WoodysTraction.com](http://www.WoodysTraction.com) to familiarize yourself with Woody's traction and control products.

**It is extremely important to follow the installation instructions included with International Engineering's products and to operate the snowmobile in a very careful and alert manner.**

Personal injury or property damage as described earlier may occur if the rear of the snowmobile is lifted above the surface. This is especially dangerous if the track is engaged, but even more dangerous if the engine is accelerated. In that circumstance the track is not under load, the RPM will be higher, and centrifugal force could cause breakage of the track, dislodged flying studs and track debris with resultant personal injury and property and snowmobile damage.

Personal injury or snowmobile and property damage could also occur if the snowmobile track, equipped with Woody's traction and control products, engages with stones, rocks, pieces of wood, clumps of ice, or other items that could become projectiles. Also, if for some reason, such as too few studs being installed, a stud becomes "snagged", a stud itself could break off and become a projectile. It is, therefore, important that people and property, such as vehicles, not be positioned behind the snowmobile. **ALWAYS ATTACH THE SNOW FLAP TO THE TUNNEL WITH CORD/STRAP ON STUDED SNOWMOBILES.** (Part# MUD-STRAP)

It is also important to keep clothing and body parts away from a moving snowmobile track equipped with Woody's traction and control products. The studs could snag clothing or body parts and if that happens, personal injury or property damage could occur.

If the installer uses square washers, support plates, or backer plates, these should be installed, and kept, parallel with the lugs and the side of the track. **Failing to do this can cause the square washers, support plates, or backer plates, to dig into and weaken or damage the track and cause track failure which could result in personal injury or snowmobile and property damage.**

Woody's recommends that snowmobiles equipped with Woody's traction and control products not be operated on hard surfaces such as asphalt and concrete. If it is unavoidable to cross such surfaces, cross only at a steady slow pace just above the speed necessary to engage the drive mechanism. **If this direction is not followed, the turning carbide can catch or adhere to such surfaces causing the snowmobile to stop and remain stopped with the risk that the snowmobile and its occupant(s) could be struck or injured by other vehicles, including snowmobiles, automobiles, and trucks traveling on hard surface roadways.**

To reduce the risk of personal injury or snowmobile and property damage, it is important that the owner/operator/installer does not "mix" the manufacturer's of lock nuts, T-nuts, support plates, or studs, or stud length styles, or turning carbides.

The patterns on our templates are formulated for specific OEM snowmobiles. Verify that the pattern you have chosen fits your track and/or model. If any modifications are made to your snowmobile, contact Woody's before using our templates.

Verify that your snowmobile has proper tunnel protection. Do not install studs under the tunnel protector strips. The integrity of the tunnel protectors is vital and must not be subjected to possible damage.

Also, it is extremely important to read all literature associated with Woody's traction and control products and follow carefully the directions relating to stud patterns, the number of studs, and the number of studs related to the turning carbides in order to reduce the risk of personal injury or snowmobile and property damage. It is also extremely important to properly maintain the snowmobile and the track and to replace the track at the first sign of a break, a crack, a cut, a hole, a tear, the presence of dry rot or loss of track clip. Refer to track manufacturer for specifications. **Do not install or replace Woody's traction and control products on tracks or snowmobiles that show any of these conditions.**

It is extremely important to review the recommendations and warnings of the snowmobile manufacturer. Failing to do so can result in personal injury and snowmobile and property damage.

For trail use, Woody's recommends no more than 3/8" (10mm) stud protrusion beyond the outer edge of the lug surface. If greater protrusion is present, damage to the bulkhead, track, and other structural and mechanical components of the snowmobile can occur.

### LIMITED WARRANTY

INTERNATIONAL ENGINEERING & MANUFACTURING, INC. WARRANTS each product manufactured by it to be free from defects in material and workmanship under use for the purpose for which it is intended. The Company shall not be liable for damage or delays caused by defective materials or workmanship; is limited to the repair or replacement at its factory of defective article or part thereof, which may be returned to the factory, transportation charges prepaid, within one (1) year after delivery to the original purchaser. Proof of purchase is also required. The Company shall be the sole judge of the existence of any defect in the article so returned. No claims for charges incurred in the removal, disassembly or reinstallation of such article shall be allowed. Product manufactured for consumer use on snowmobiles is designed for snow or ice only, use on any other surface voids warranty.

This Warranty shall not cover any article which has been misused or neglected or damaged by accident or any article which has been altered outside the Company's factory. The Warranty for studs is void unless the studs are installed with Woody's installation tools, support plates and lock nuts; according to the recommendations set forth in Woody's Instructions and Template Patterns. This Warranty does not cover bending, chipping, flaking or carbide pin breakage or pin loss from stud wear, stud replacement labor or shipping.

The Company shall, in no event be liable for consequential damage or contingent liability arising out of any total or partial failure to function of any article manufactured by it or of any equipment on or in which it is used. Failure of a user to give notice to claim as to defect claimed under the provisions of this Warranty within 1 year after delivery to original user, such claim shall constitute a waiver by consumer of all claims with respect to goods and equipment.

The above warranty is in lieu of all other warranties, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. In no event will the company be liable for consequential damages whether or not it has notice of the possibility of any such damages.

Follow the Woody's Manufacturer Warranty Returns directions to return any product from International Engineering & Mfg., Inc.

Woody's, Team Woody's, Snowmobiler, Traction Master, Flat-Top, Gold Digger, Mega-Bite, Signature Series, Chisel Tooth, Grand Master, Grand Master Pro, Trigger, Square Digger, Round Digger, Double Digger, Angled Digger, Angled Double Digger, Round Grand Digger, Square Grand Digger, Double Grand Digger, Star Stud, Top-Stock, Extender Trail III, Trail Blazer IV, Executive, Ultra Series, ACE, Dooly and Slim Jim are trademarks and/or trade names of International Engineering and Manufacturing, Inc. Traction Master refers to a patented product of International Engineering and Manufacturing, Inc. and is covered by US Patent No. 5,234,266 and Canadian Patent No. 2,086,186. Woody's Mega-Bite studs are covered by US Patent No. D415,954 and Canada No. D88,613. Woody's Wide Body Chisel Tooth studs are covered by US Patent No. D551,544 and Canadian No. 115,499. Triangle Digger support plates are covered by US Patent No. D547237.

### SAFETY RECOMMENDATIONS

- **Always attach the snow flap to the running board using Woody's® Snow Flap Strap Kit on studded snowmobiles. If not attached, studs may snag flap while in reverse resulting in tearing, tunnel damage or sudden stop of vehicle.**
- **To avoid possible flying debris, never stand behind a rotating track.**

### \*WARRANTY REGISTRATION\*

► **Confirm Your Warranty**  
Your prompt product registration confirms your right to the protection available under the terms and conditions of the Woody's warranty.

► **Log onto [www.WoodysTraction.com/warranty-registration](http://www.WoodysTraction.com/warranty-registration)**

Submit your warranty registration online. You must have the **warranty registration number**, located to the right, to complete the form. You will also need your name, complete address, phone number, what product was purchased, the date purchased and the place where it was purchased. You can also submit your warranty information by mailing your warranty registration number and the information listed above to International Engineering & Manufacturing, Inc., 6054 North Meridian Rd., Hope, Michigan 48628

### CONTACT US / TECHNICAL ASSISTANCE

8:00 a.m. to 4:30 p.m. (EST), Monday through Friday. We have experienced technicians to assist you. For a prompt response email us at <http://woodystraction.com/ask-the-experts>. Otherwise you can contact us: Phone: 989-689-4911 Ext. 450 Fax: 989-689-4910 • Website: [www.WoodysTraction.com](http://www.WoodysTraction.com)

### WOODY'S CUSTOMER SERVICE AND PRODUCT RETURNS

Warranty claims - call our customer service department for a Return Authorization Number. The Return Authorization Number must be visible on the outside of the package being returned. At your expense ship the product to International Engineering & Mfg., Inc., 6054 N. Meridian Rd., Hope MI 48628. The product must be inspected by a Woody's technician to determine if the product is defective due to material, quality or workmanship before a final warranty determination is made. Proof of purchase is required. Please include your warranty registration number. All returns to the manufacturer are for exchange only.

### STUD PATTERN TRAIL TEMPLATES

Review the snowmobile and track manufacturer's studding recommendations in your owner's manual. Consult with your snowmobile dealer about added tunnel protection. The number of studs recommended by Woody's for your sled can be found in a Woody's Product Applications Guide at <http://appguide.woodystraction.com>. Pattern diagrams for specific quantities of studs, template instructions and part numbers can be found under Trail Templates and Patterns on our website. The patterns on our templates are formulated for specific OEM snowmobiles. Verify that the pattern you have chosen fits your track and/or model. If any modifications are made to your snowmobile, contact Woody's before using our templates. For competition stud patterns call our tech line.

# IMPORTANT INSTALLATION INSTRUCTIONS

Part# INST-WDYS-MASTER2-2

**woody's**

WARRANTY REGISTRATION #

**WARNING**

NEVER STAND BEHIND or near a rotating track with/without a jack stand or back stand or kick stand.

Do not lift rear of snowmobile track while operating.

Track failure or debris can project with great force resulting in personal injury, dismemberment or death.

**AVERTISSEMENT**

NE JAMAIS SE TENIR DERRIERE ou près d'une chenille qui tourne, avec ou sans béquille, chandelle ou support central.

Ne pas soulever l'arrière de la chenille de la motoneige lorsque celle-ci tourne.

Une chenille brisée ou des débris pourraient être projetés avec force et pourraient ainsi sectionner une jambe ou causer d'autres blessures sérieuses, voire la mort.