



**TRU-TURF**

**TRIPLEX ROLLER / SPIKER HEADS MANUAL**



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Revised 3/Nov/2012

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# Machine Information Record

Congratulations on your investment in the Tru-Turf Pty. Ltd. Triplex Roller / Spiker Heads and your move to smoother, faster, more consistent putting Greens. The following operation and maintenance manual has been prepared for use with the Tru-Turf Pty. Ltd. Triplex Roller / Spiker Heads. It is intended as a guide and supplemental updates to the manual may take place at a future date.

These rollers are engineered to be simple to operate and easy to maintain. If you have any questions or concerns that this manual does not address, please feel free to contact your distributor at:

## Distributor Information

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

## Machine Information

Triplex Roller / Spiking Heads

Serial No. \_\_\_\_\_

Purchase Date No. \_\_\_\_\_



# Safety Information

## Safety Information

**Safety is of the utmost importance when operating turf equipment.**

**To ensure safe operation of the Tru-Turf Pty. Ltd. TRIPLEX Roller / Spiker Heads, please follow the following safety guidelines.**

- Always make a pre-operation inspection. If this procedure is not carried out damage to property or personnel may occur.
- Keep children, pets and inexperienced personnel away from the machine. This machine should only be operated by trained and skilled personnel - check with your supervisor if you are unsure.
- Never permit inexperienced operators to use the machine. This machine requires certain knowledge and expertise to operate it; you must be a trained person to use this machine. Unskilled persons can harm themselves and others if they operate this machine.
- When operating, always keep hands and loose clothing away from rollers and blade area. If hair, clothing or loose objects become entangled on a rotating shaft serious bodily injury could occur.

# Warranty

## Universal Conditions

Tru-Turf Pty. Ltd. (Tru-Turf) will repair or replace any item or part of a Tru-Turf Golf Greens Roller that is defective in workmanship or material for a period of twenty four (24) months or unless otherwise stated, from the date of delivery of the new product to the original end user. Items identified as warrantable will be repaired or replaced by an approved Tru-Turf Dealer.

## Products Protected By This Warranty

This Warranty relates to the following products

manufactured by Tru-Turf, listed by model series;

- a). GR7000, GR11000, RB48, RS48, R52 & SC48 series golf greens rollers.
- b). TR66 triplex smoothing heads and triplex mower attachment hardware.
- c). SR72 Sports Turf Roller.
- d). MT5000 Series Totes are covered for a period of twelve (12) months.

Ensure that your dealer has completed and submitted the Online Warranty Registration and Inspection Report Form applicable to your unit. This will ensure that it has been sent directly to Tru-Turf for registration.

## Parts Warranted by OEM Suppliers to Tru-Turf

Specific component parts supplied to Tru-Turf Pty. Ltd. by OEM suppliers are covered by that supplier's Warranty. These parts and components include Eaton Transmissions, Honda Engines, Sevcon & Curtis Controllers & Foot Pedals, Falk Gearboxes & Electric Motors. Only Tru-Turf manufactured parts qualify for the twenty four (24) month warranty.

## Normal Wear and Tear

Tru-Turf will not repair or replace parts that are subject to normal wear and tear and or that are subject to regular maintenance intervals as specified in the product Operator's Manual. These parts include, but are not limited to, oils, filters, tyres, shafts, bearings, blades, spikers, slicers, brakes, belts, hoses, spark plugs, drive chains, sprockets, drive rollers & smoothing rollers.

## Other Items Not Covered By This Warranty

Tru-Turf will not repair or replace any item that has been damaged by accident, lack of reasonable care and protection or lack of suitable storage. Tru-Turf will not warrant parts that have been altered or modified, nor aftermarket parts fitted without written Tru-Turf approval. Tru-Turf will not warrant used parts that are installed in place of failed parts.

Tru-Turf will not warrant parts that have not been installed by an approved Tru-Turf dealer, nor will Tru-Turf warrant parts that have not been maintained per the Operator's Manual.

The product is to be made available for Warranty repairs at the approved Tru-Turf dealer's premises or by arrangement with the approved dealer.

Service calls, overtime-labour rates and freight costs related to the return of the faulty product to Tru-Turf or its agents are not included.

Tru-Turf shall not be liable for any consequential loss, damage or costs incurred by or incidental to the failure of any new part supplied with the original purchase or any new part supplied as a replacement for any failed part.

Ensure that you the owner or the Dealer has lodged the completed Warranty Registration and Inspection Report Form, On-line, applicable to your unit and that it has been returned to Tru-Turf for registration. This record must be referred to along with the reasons why the purchaser believes that the product or a part is defective in the categories of faulty material or workmanship.

Acceptance or rejection of the Warranty Claim is entirely at the discretion of Tru-Turf or their OEM Suppliers who warrant their own part/s.

The Warranty Registration and Inspection Report Form along with the TRU-TURF Pty. Ltd. Warranty Terms & Conditions statement are available for viewing, download or printing as a ready reference by simply clicking the link provided on our website.

The Warranty Registration and Inspection Report Form must be signed by both the Dealer Rep and the Customer and returned or any warranty claim/s will be denied.

*No person or organisation has the authority to modify the terms or conditions or limitations of this Warranty without the written consent of Tru-Turf.*

# Operation

## Operation Procedure

### Rolling Only

Raise and lower the heads as per the mower cutting reels and use in a similar method as the cutting reels when polishing the green. Rolling only can be done at various prime mover speeds. Turning is permitted, no damage to the green will occur.

### To spike the Greens surface

With the heads in the raised position, engage the spiker blades by using the handle across the front of each head, pull handle toward you and select the ½ depth setting 20mm (¾") or the full depth setting 30mm (1 ¼") as required. Release handle to lock it in position.

Two methods of operation can be used when spiking:

- (1) With the prime mover on the move lower the Triplex Heads, continue moving at full speed.
- (2) With the prime mover stationary the Triplex Heads can be lowered to the ground the spiking blades are engaged. Move off with the prime mover at full speed.
- (3) Remember this spiking method is not to be used as a major renovating tool, it works well in between major renovating schedules when additional oxygen and water is required. Certain greens at certain times of the year may have firmed up and you may experience difficulties gaining maximum penetration from the spiking blades and the heads may tend to ride up off the green. We suggest using them set at the minimum depth and use them regularly until you are able to engage the spikers to the full depth setting. Don't forget to use a high range gear on the mower, this assists in helping the spiker penetrate the surface.

Selecting either one of the above methods may be determined by the season and style of grass on the green. You, as the operator, can determine which style is suitable.

**Do not turn whilst spiking the greens or tearing of the grass will occur.**

# John Deere 2500 Series Assembly



## Initial Assembly

When you receive the crate and carton, the Triplex heads will be broken down into components ready for assembly. If you run into any problems during assembly, please feel free to call your local distributor or agent.

## List of Components

QTY	Description
	<b>Crate</b>
3	Triplex Heads
	<b>Carton</b>
3	Hydraulic Motor Brackets
3	Mounting Brackets
6	M12 x 45 Bolts
6	M12 Flat Washers
6	$\frac{3}{8}$ x $1\frac{1}{2}$ NF Bolts
6	M10 Flat Washers
3	'R' Clips
6	$\frac{3}{8}$ x 1 NF Bolt (for counterweight if used)

## Assembly Procedure

1. Remove Triplex Heads from the crate.
2. Remove components from carton.
3. Bolt the Hydraulic Motor Brackets onto the heads using  $1\frac{1}{2}$  x  $\frac{3}{8}$  NF Bolts. ( Note brackets will fit on either side of the head, select correct side of head to suit the Triplex Hydraulic motors ).
4. Bolt the mounting brackets to each head, using M12 x 45 Bolts x M12 Flat washers, ensuring that the ball on the bracket is to the front of the head. These bolts must be tightened until they bottom out or reach the bottom of the threaded nut welded to the lower / forward section of the side plates.

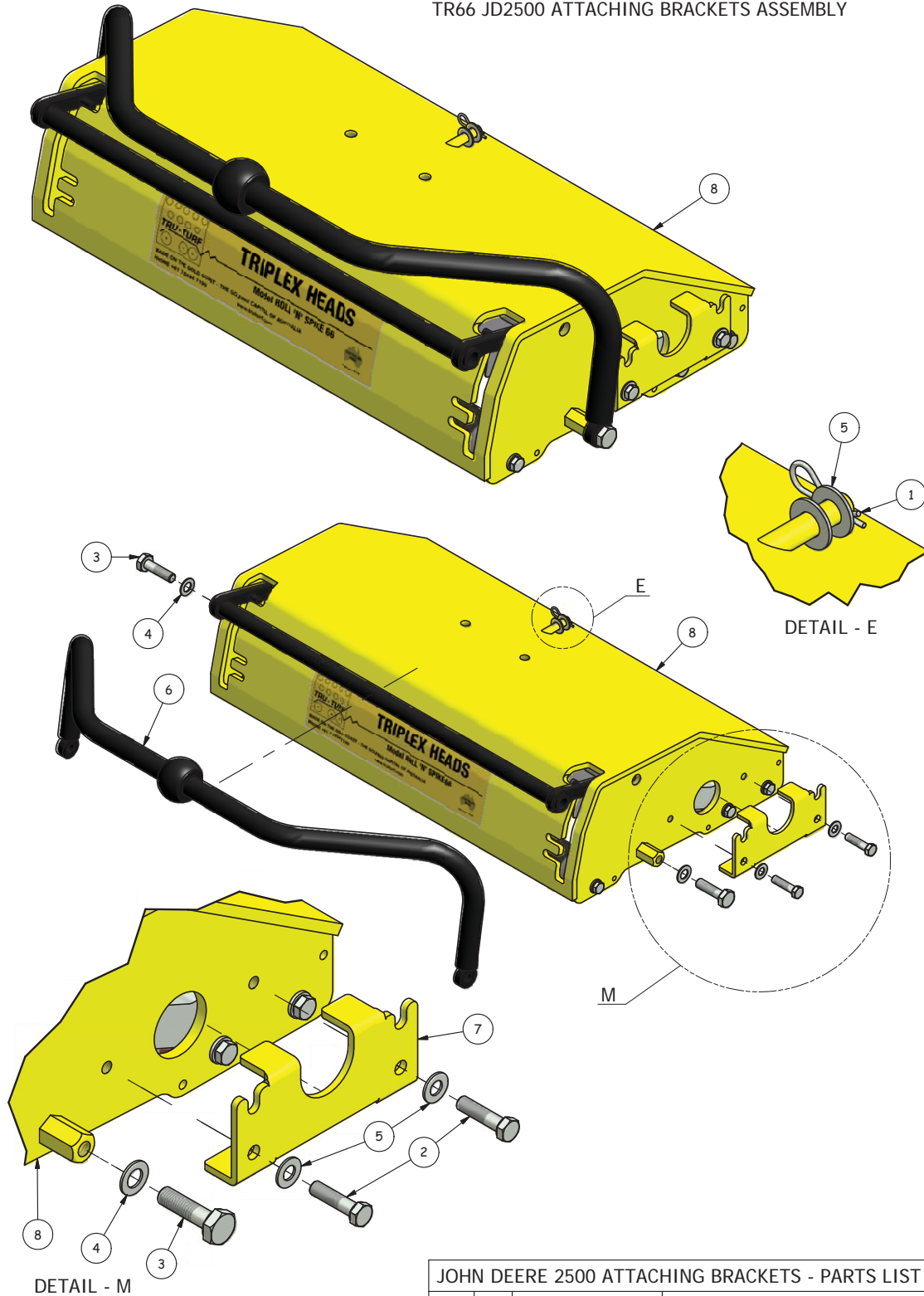
## Fitting Mower

1. Remove cutting heads from mower
2. Attach existing John Deere coupling to the ball on the mounting bracket.
3. Fit Triplex Roller / Spiker heads to Triplex mower.
4. Fasten Hydraulic motor to bracket.
5. Connect chain to rear of head, fasten with 2 x M10 flat washers and "R" pin.
6. Adjust length of chain so that the trailing side of the head touches the ground first when lowered.



# John Deere 2500 Series Parts

## TR66 JD2500 ATTACHING BRACKETS ASSEMBLY



### JOHN DEERE 2500 ATTACHING BRACKETS - PARTS LIST

ITEM	QTY	STOCK NUMBER	TITLE
1	1	R8103	R CLIP
2	2	R8070	3/8 x 1.1/2 UNF BOLT ZP
3	2	R8092	M12 x 45 HEX BOLT ZP
4	2	R8167	M12 x 24x1.6 WASHER
5	4	R8174	M10 WASHER FLAT ZP
6	1	T3001	MOUNTING BRACKET JD2500
7	1	T3016	MOTOR BRACKET JD2500
8	1	TR66 BASE UNIT	BASE UNIT ROLLER ASSY

# Jacobsen 4 Series Assembly



## Initial Assembly

When you receive the crate and carton, the Triplex heads will be broken down into components ready for assembly. If you run into any problems during assembly, please feel free to call your local distributor or agent.

## List of Components

QTY	Description
	<b>Crate</b>
3	Triplex Heads
	<b>Carton</b>
3	Hydraulic Motor Brackets
3	Mounting Brackets
6	16 x 60mm threaded stop pins
6	16mm Lock Nuts
6	M12 x 45 Bolts
6	M12 Flat Washers
6	3/8 x 1/2 NF Bolts
6	5/16 x 3/4 NF Bolts
6	5/16 Spring Washers

## Assembly Procedure

1. Remove Triplex Heads from the crate.
2. Remove components from carton.
3. Bolt the Hydraulic motor brackets to the correct side of the head to match up with the mower hydraulic motor. 1/2 x 3/8 NF Bolts (This is important, a longer bolt will interfere with the internal workings if used).
4. Place mounting bracket across the head with the mounting spigot (7/8" solid round) to the front side of head. Secure it in place with 2 x M12 x 45 bolts and 2 x 12mm flat washers. Tighten these bolts until they reach the bottom of the hole and lock in place.
5. At the top of both sides of each head, there is a 16mm threaded hole, screw the 16mm pin into the threaded hole so that the pin is flush with the inside of the end plate, tighten locknut against the end plate, tight.

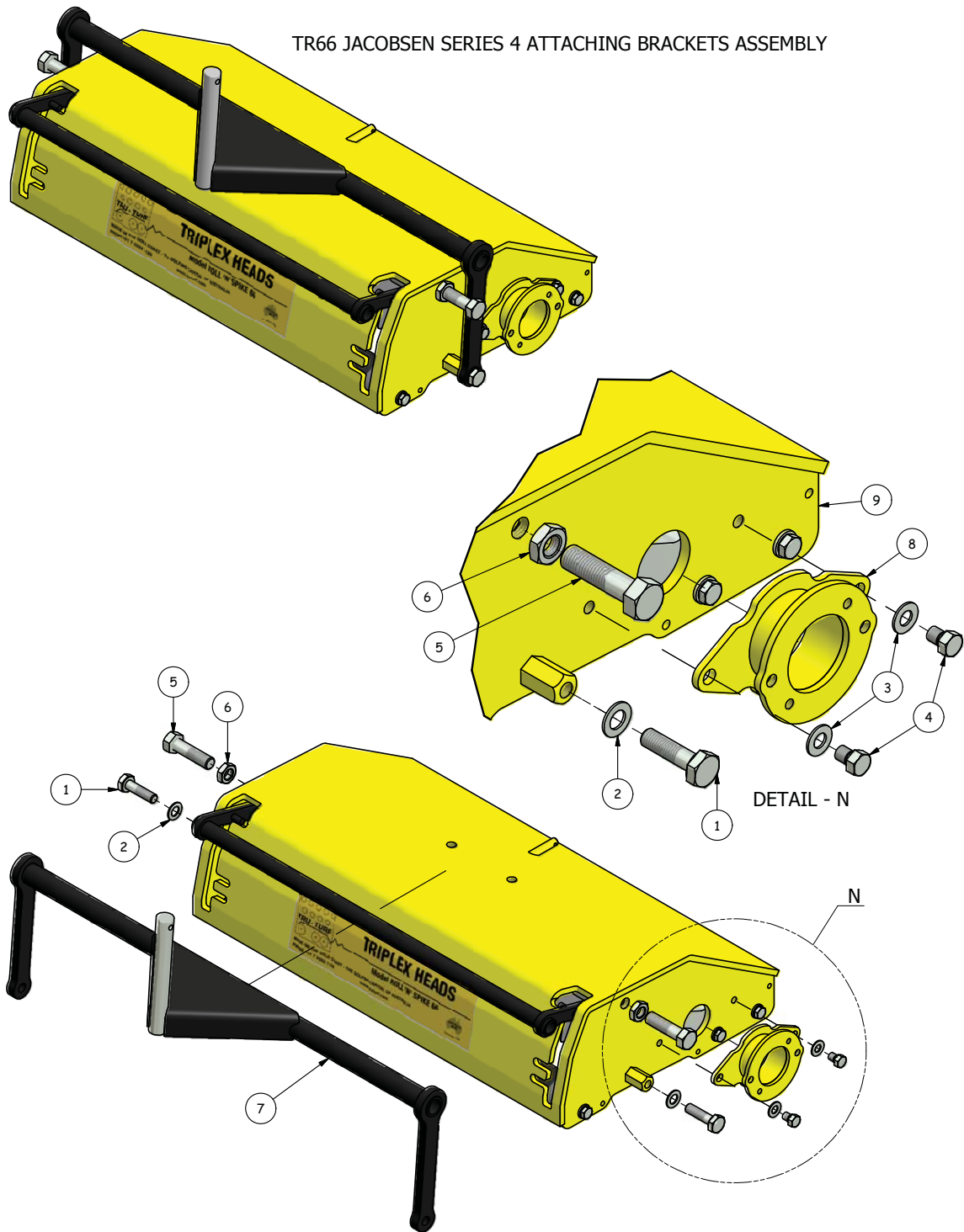
**Important - Ensure the mounting bracket is set behind these pins.**

## Fitting Mower

1. Remove cutting heads from mower.
2. Fit Triplex Roller / Spiking Heads in their place.
3. Bolt Hydraulic Motors to Brackets using M8 x 20 Bolts and M8 Spring washers.

# Jacobsen 4 Series Parts

TR66 JACOBSEN SERIES 4 ATTACHING BRACKETS ASSEMBLY



JACOBSEN SERIES 4 ATTACHING BRACKETS - PARTS LIST			
ITEM	QTY	STOCK NUMBER	TITLE
1	2	R8092	M12 x 45 HEX BOLT ZP
2	2	R8167	M12 x 24x1.6 WASHER
3	2	R8174	M10 WASHER FLAT ZP
4	2	R8181	3/8" x 1/2 UNF HEX ZP
5	2	R8230	M16 x 2 x 60 HEX BOLT ZP
6	2	R8231	M16 x 2 HEX HALF NUT ZP
7	1	T4001	BRACKET ATTACHING JAKE
8	1	T4016	JACOBSEN DRIVE FLANGE
9	1	TR66 BASE UNIT	BASE UNIT ROLLER ASSY

# Jacobsen 5 & 6 Assembly



## Initial Assembly

When you receive the crate and carton, the Triplex heads will be broken down into components ready for assembly. If you run into any problems during assembly, please feel free to call your local distributor or agent.

## List of Components

QTY	Description
	<b>Crate</b>
3	Triplex Heads
	<b>Carton</b>
3	Hydraulic Motor Brackets
3	Mounting Brackets
6	16 x 60mm threaded stop pins
6	16mm Lock Nuts
6	M12 x 45 Bolts
6	M12 Flat Washers
6	$\frac{3}{8}$ x $\frac{1}{2}$ NF Bolts
6	Slotted hydraulic motor mounting pins
6	M10 Nuts
6	Stainless Steel motor mount spring clips

## Assembly Procedure

1. Remove Triplex Heads from the crate
2. Remove components from the carton
3. Bolt the Hydraulic motor brackets to the correct side of the head to match up with the mower hydraulic motors. Use  $\frac{1}{2}$  x  $\frac{3}{8}$  NF Bolts. ( This is important, a longer bolt will interfere with the internal workings if used ).
4. Place mounting bracket across the head with the mounting spigot to the front side of head. Secure it in place with 2 x M12 x 45 bolts and 2 x 12mm flat washers. Tighten these bolts until they reach the bottom of the hole and lock in place.
5. At the top of both sides of each head, there is a 16mm threaded hole, screw the 16mm pin into the threaded hole so that the pin is flush with the inside of the end plate, tighten locknut against the end plate tight.

**Important - Ensure the mounting bracket is set behind these pins.**

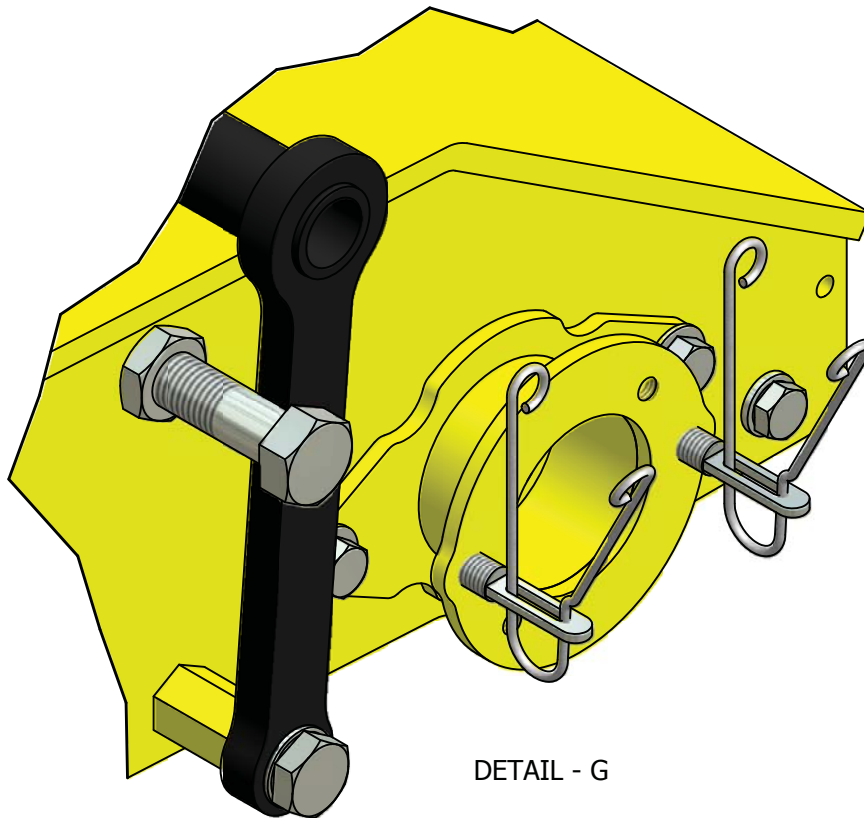
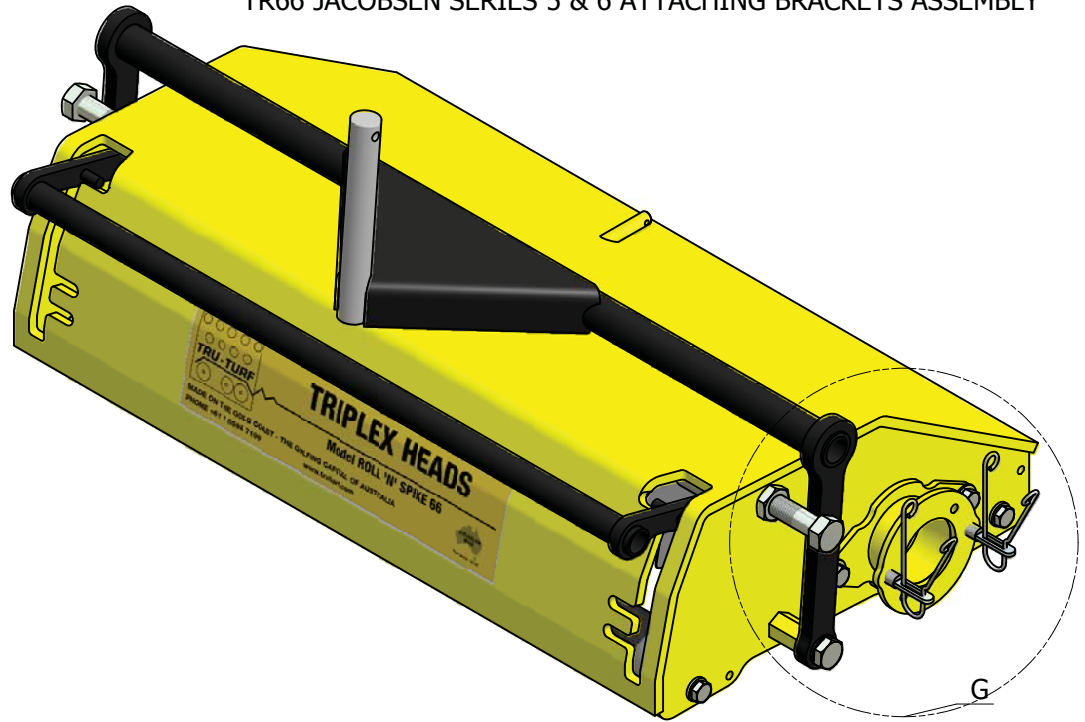
## Fitting Mower

1. Remove cutting heads from mower.
2. Fit Triplex Roller / Spiking Heads in their place.
3. Slide hydraulic motors on to slotted pins and hold in place with the Stainless Steel Spring Clips supplied.



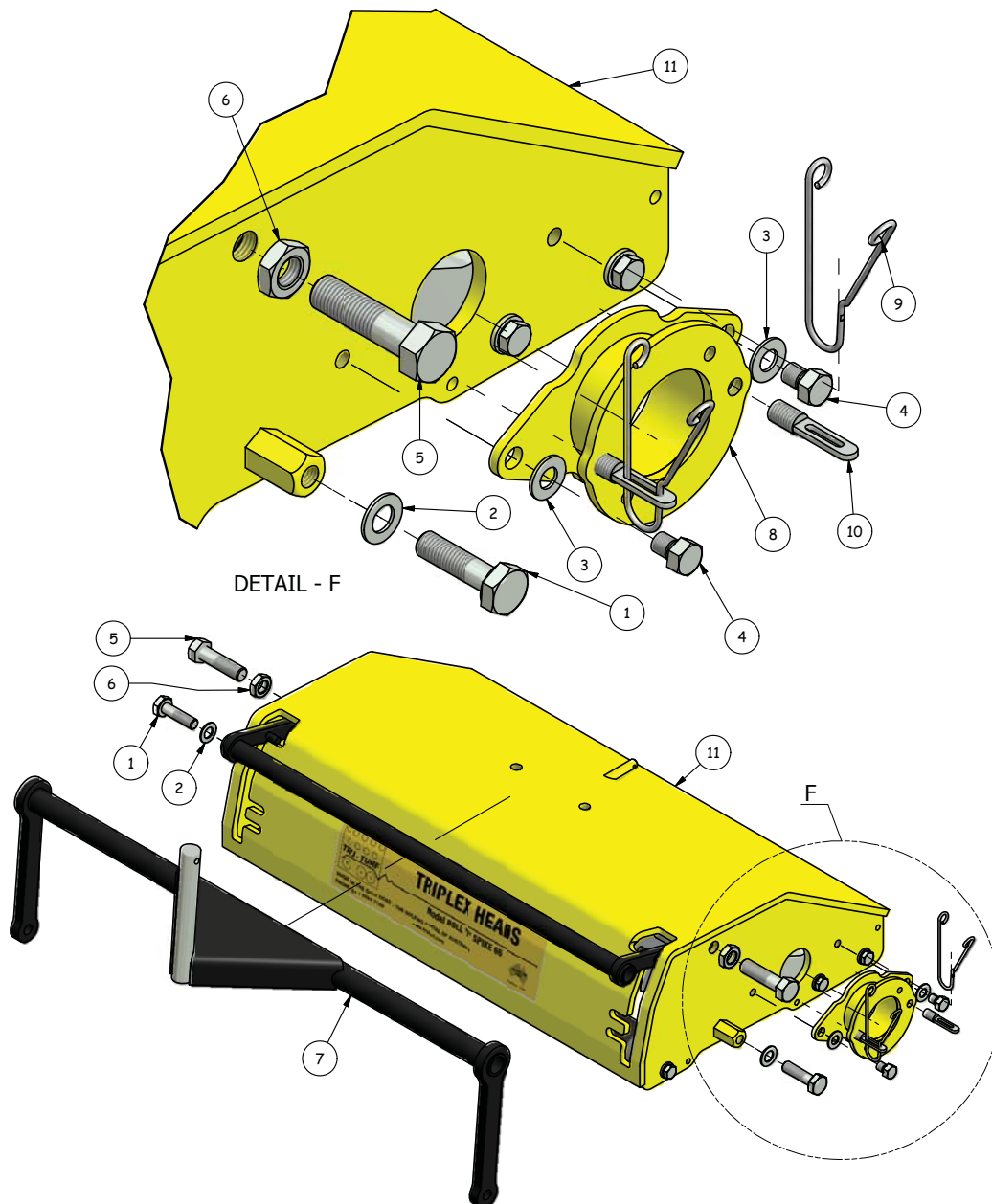
# Jacobsen 5 & 6 Series Parts

TR66 JACOBSEN SERIES 5 & 6 ATTACHING BRACKETS ASSEMBLY



# Jacobsen 4, 5 & 6 Series Parts

JACOBSEN SERIES 5 & 6 ATTACHING BRACKETS - PARTS LIST			
ITEM	QTY	STOCK NUMBER	TITLE
1	2	R8092	M12 x 45 HEX BOLT ZP
2	2	R8167	M12 x 24x1.6 WASHER
3	2	R8174	M10 WASHER FLAT ZP
4	2	R8181	3/8" x 1/2 UNF HEX ZP
5	2	R8230	M16 x 2 x 60 HEX BOLT ZP
6	2	R8231	M16 x 2 HEX HALF NUT ZP
7	1	T4001	BRACKET ATTACHING JAKE
8	1	T4016	JACOBSEN DRIVE FLANGE
9	2	T4019	SPRING CLIP MOTOR RETAINER
10	2	T4020	MOTOR PIN
11	1	TR66 BASE UNIT	BASE UNIT ROLLER ASSY



# Toro 3000 Assembly



## Initial Assembly

When you receive the crate and carton, the Triplex heads will be broken down into components ready for assembly. If you run into any problems during assembly, please feel free to call your local distributor or agent.

## List of Components

QTY	Description
	<b>Crate</b>
3	Triplex Heads
	<b>Carton</b>
3	Hydraulic motor brackets
3	Mounting brackets (9 pieces)
6	M12 x 45 bolts
6	M12 flat washers
3	'R' Clips
6	1" x 1/2" UNF bolts
3	Lifting brackets
6	1/2" Spring washers
6	5/16" NF Hex Nuts

## Assembly Procedure

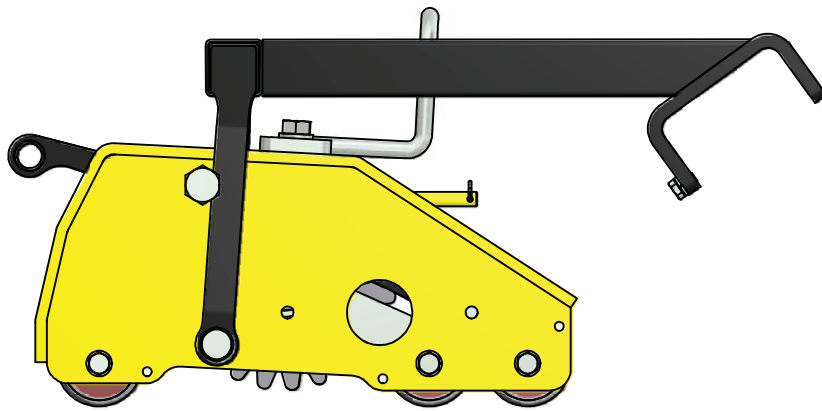
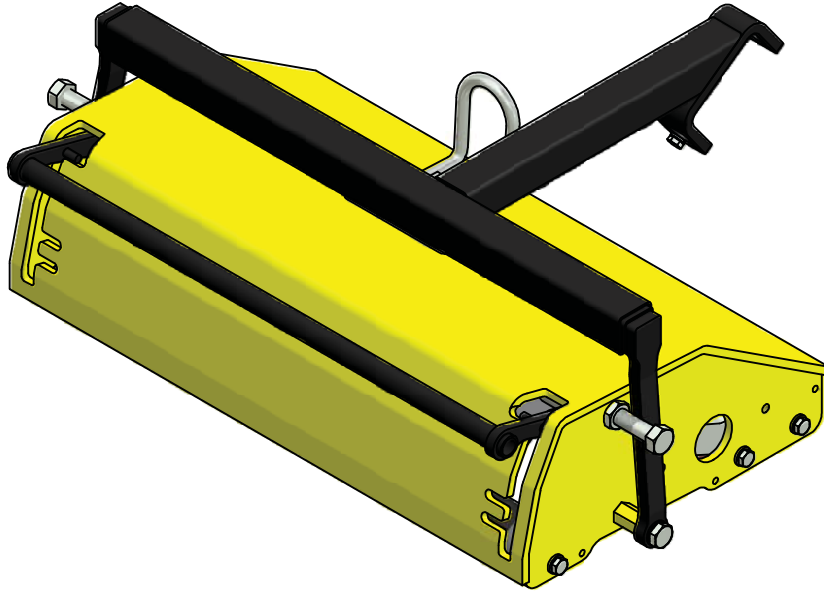
1. Remove Triplex Heads from the crate.
2. Remove components from carton.
3. Insert the Hydraulic Motor Brackets into the prime mover locating holes on the body near the cutting heads, using the "R" pin supplied to fix in place.
4. Slide the side mounting brackets into the 40 x 40 RHS ensure the offset mounting brackets are correctly fitted to the correct head as per the drawing, ensuring that the bracket is sloping towards the rear at the top of the side bracket as per the drawing enclosed. Using the M12 x 45 Bolts & Flat washers, bolt the brackets in place, bolts must be tightened until they bottom out or reach the bottom of the threaded nut welded to the lower / forward section of the side plates.
5. Mount the "D" shaped lifting arm brackets on top of each head using the 1/2" UNF bolts supplied.

## Fitting Mower

1. Remove the hydraulic drive motors off the cutting heads.
2. Remove cutting heads from mower at the 1" pin position.
3. Attach Triplex Heads at the 1" pin position, ensure the locking tabs are secured properly with the bolt on the 1" pin & the Toro lift arm is through the lifting bracket on top of the head.
4. Fasten Hydraulic motor to bracket.

# Toro 3000 Parts

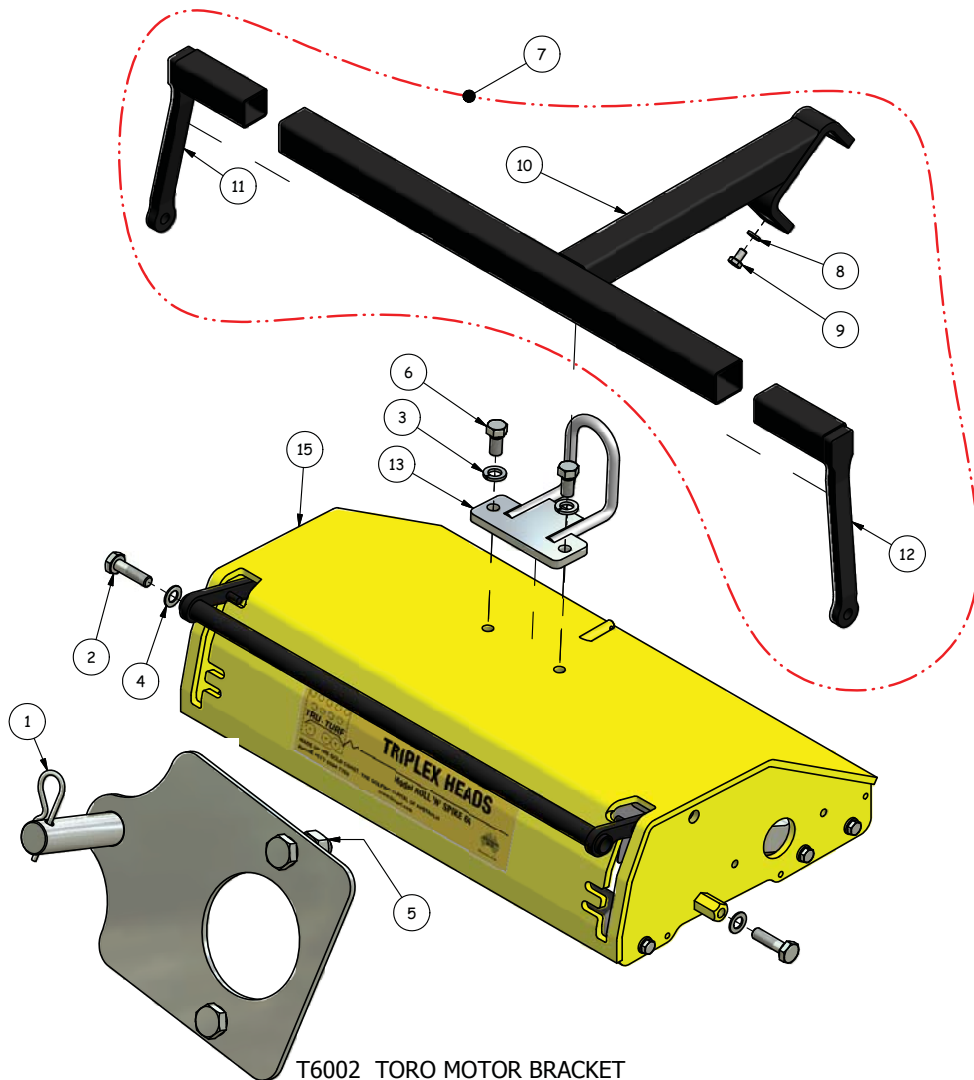
TR66 TORO 3000 ATTACHING BRACKETS ASSEMBLY



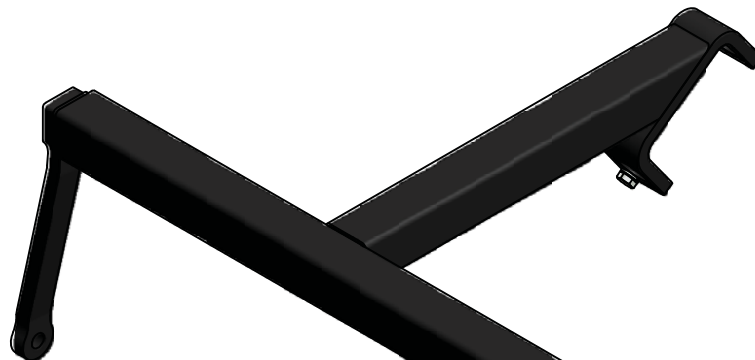


# Toro 3000 Parts

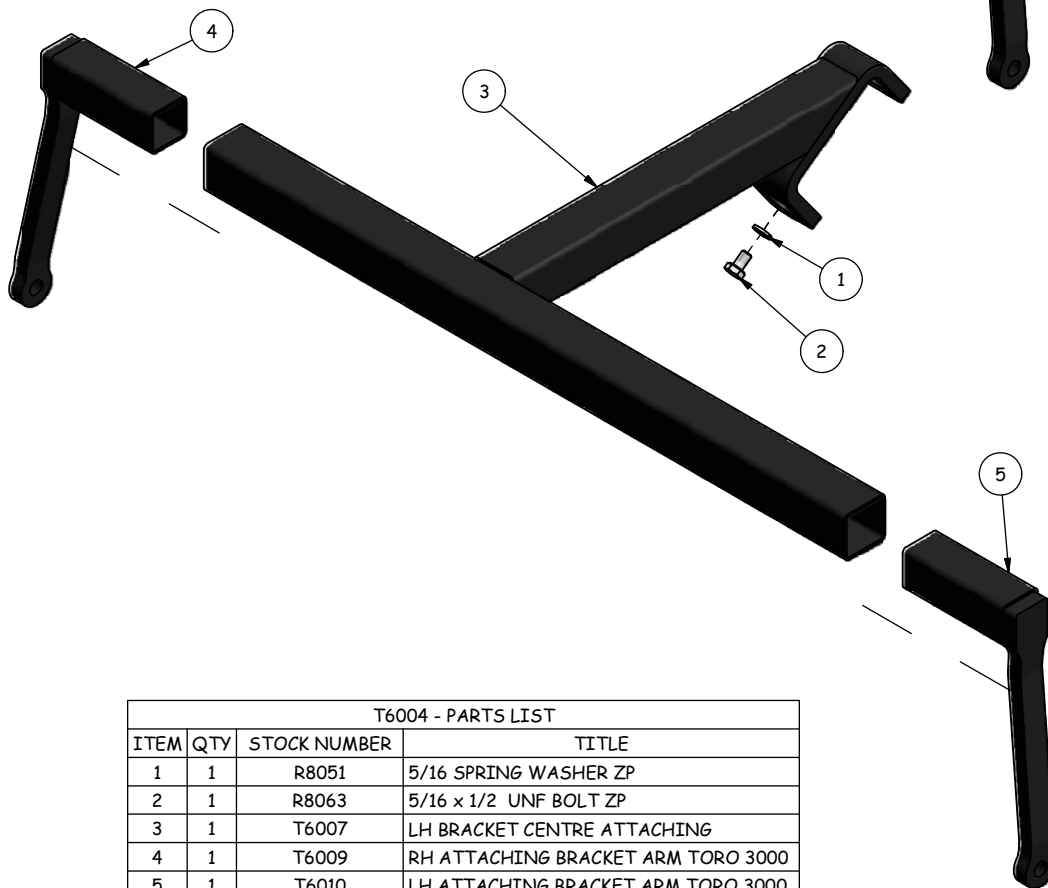
TORO 3000 ATTACHING BRACKETS - PARTS LIST				
ITEM	QTY	STOCK NUMBER	TITLE	
1	1	R8103	R CLIP	
2	2	R8092	M12 x 45 HEX BOLT ZP	
3	2	R8107	1/2 SPRING WASHER ZP	
4	2	R8167	M12 x 24x1.6 WASHER	
5	2	R8175	5/16" UNF HEX NUT ZP	
6	2	R8183	1/2" x 1" UNF HEX BOLT	
7	2	T6001	TORO 3000 ATTACHING BRACKETS RH ASSY	
8	1	R8051	5/16 SPRING WASHER ZP	
9	1	R8063	5/16 x 1/2 UNF BOLT ZP	
10	1	T6008	TORO RH BRACKET CENTRE ATTACHING	
11	1	T6009	RH ATTACHING BRACKET ARM TORO 3000	
12	1	T6010	LH ATTACHING BRACKET ARM TORO 3000	
13	1	T6003	TORO LIFTING ARM	
14	1	T6004	TORO 3000 ATTACHING BRACKETS LH ASSY - SEE NEXT PAGE	
15	1	TR66 BASE UNIT	BASE UNIT ROLLER ASSY	



# Toro 3000 Parts



T6004 TORO 3000 ATTACHING BRACKETS LH ASSY



T6004 - PARTS LIST			
ITEM	QTY	STOCK NUMBER	TITLE
1	1	R8051	5/16 SPRING WASHER ZP
2	1	R8063	5/16 x 1/2 UNF BOLT ZP
3	1	T6007	LH BRACKET CENTRE ATTACHING
4	1	T6009	RH ATTACHING BRACKET ARM TORO 3000
5	1	T6010	LH ATTACHING BRACKET ARM TORO 3000

# Toro 3250 Assembly



## Initial Assembly

When you receive the crate and carton, the Triplex heads will be broken down into components ready for assembly. If you run into any problems during assembly, please feel free to call your local distributor or agent.

## List of Components

QTY	Description
	<b>Crate</b>
3	Triplex Heads
	<b>Carton</b>
3	Hydraulic motor brackets
3	Mounting brackets (9 pieces)
6	M12 x 45 bolts
6	M12 flat washers
3	'R' Clips
6	1" x 1/2" UNF bolts
3	Lifting brackets
6	1/2" Spring washers
6	5/16" NF Hex Nuts

## Assembly Procedure

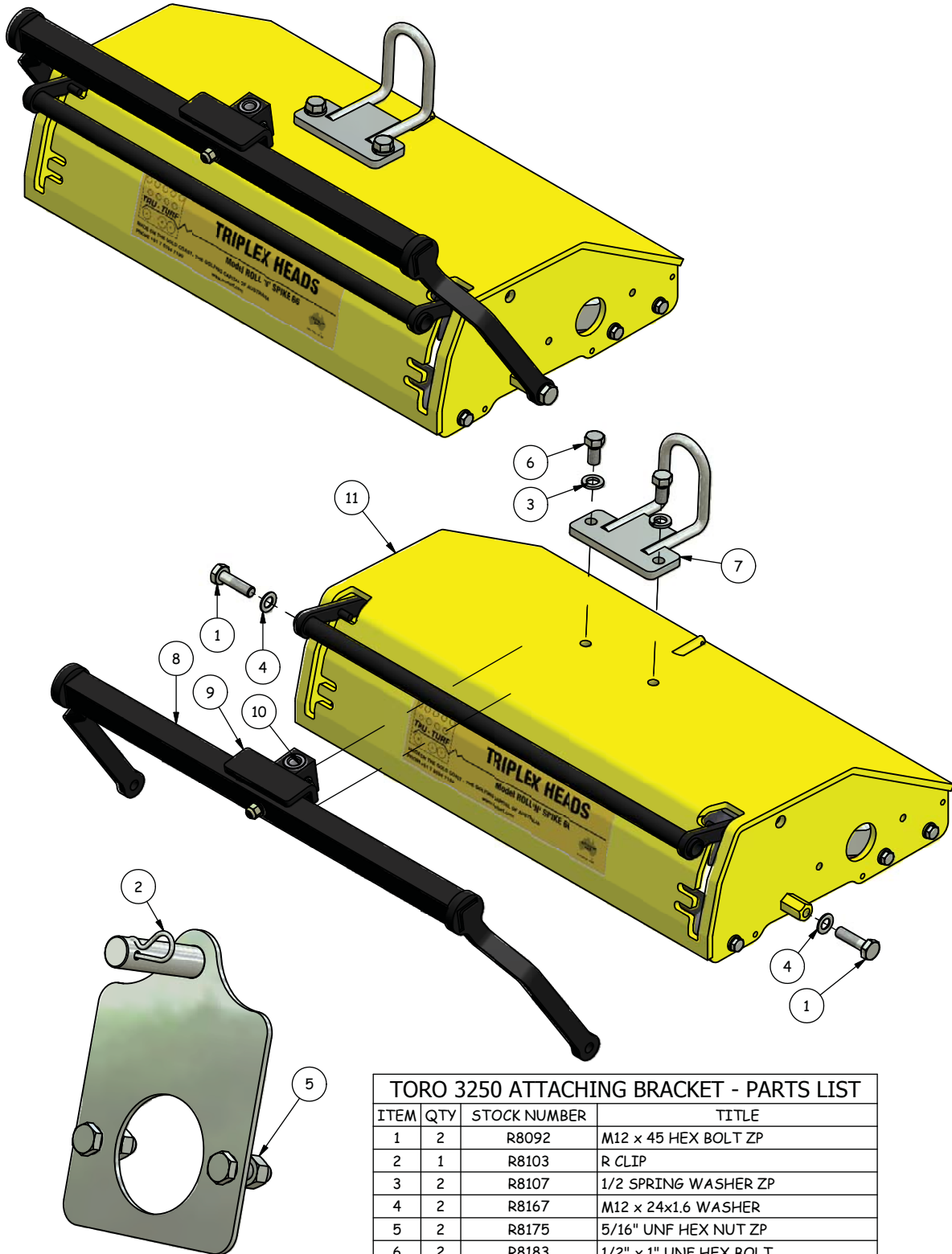
1. Remove Triplex Heads from the crate.
2. Remove components from carton.
3. Insert the Hydraulic Motor Brackets into the prime mover locating holes on the body near the cutting heads, using the "R" pin supplied to fix in place.
4. Bolt the mounting brackets to each head using the M12 x 45 bolts. Ensure the brackets are free to pivot at this point when the bolts are tightly bottomed on each side.
5. Mount the "D" shaped lifting arm brackets on top of each head using the 1/2" UNF bolts supplied.

## Fitting Mower

1. Remove the hydraulic drive motors off the cutting heads.
2. Fasten Hydraulic motor to bracket.
3. Remove the 1/2" from the cutting heads and remove heads from mower. Attach Triplex Heads using the same 1/2" bolt that held the cutting heads. Tighten bolt tight. Ensure the Toro lift arm is through the lighting bracket on top of the head.

# Toro 3250 Parts

## TR66 TORO 3250 ATTACHING BRACKETS ASSEMBLY



T6002 TORO MOTOR BRACKET

TORO 3250 ATTACHING BRACKET - PARTS LIST			
ITEM	QTY	STOCK NUMBER	TITLE
1	2	R8092	M12 x 45 HEX BOLT ZP
2	1	R8103	R CLIP
3	2	R8107	1/2 SPRING WASHER ZP
4	2	R8167	M12 x 24x1.6 WASHER
5	2	R8175	5/16" UNF HEX NUT ZP
6	2	R8183	1/2" x 1" UNF HEX BOLT
7	1	T6003	TORO LIFTING ARM
8	1	T6005	ATTACHING BRACKET TORO 3250
9	1	T6006	ATTACHING MOUNT TORO 3250
10	1	T6011	SLIDE BUSH TORO 3250
11	1	TR66 BASE UNIT	BASE UNIT ROLLER ASSY



# Toro 3250 Parts

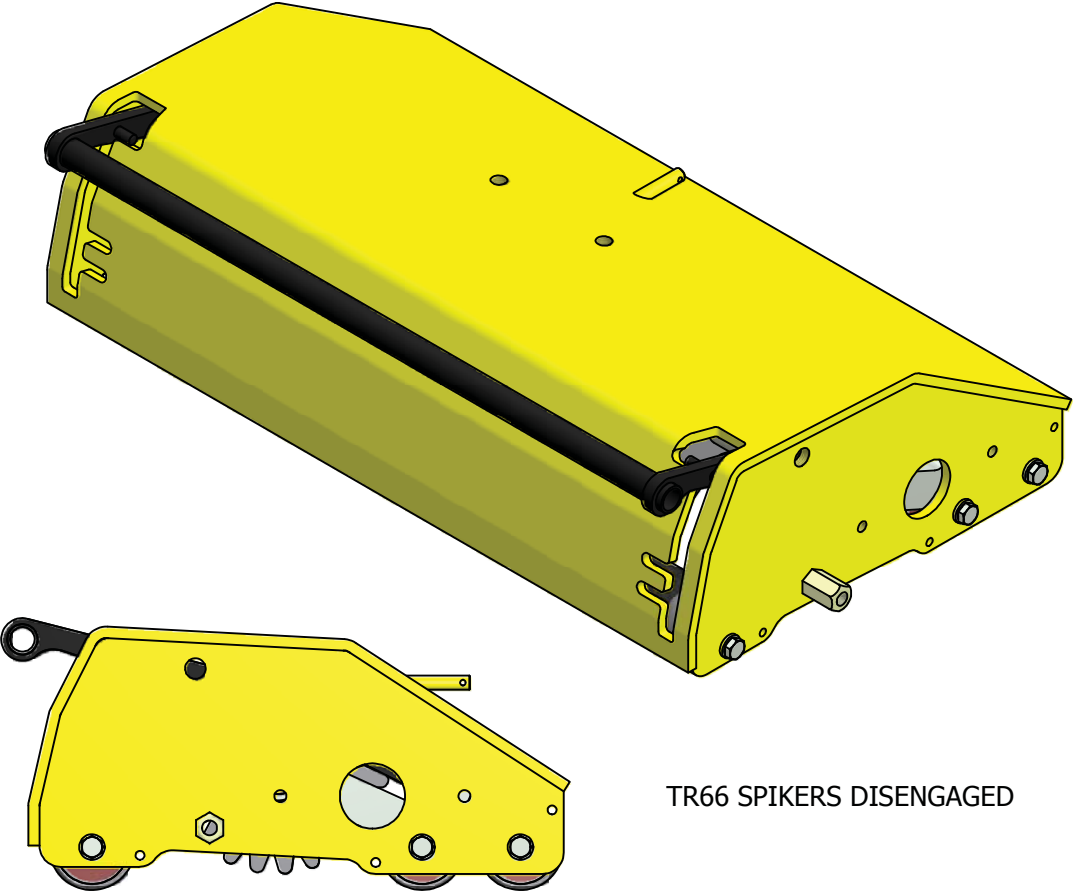
## TR66 TORO 3250 ATTACHMENT BRACKETS ASSEMBLY



### TORO 3250 ATTACHMENT BRACKETS - PARTS LIST

ITEM	QTY	STOCK NUMBER	TITLE
1	1	R8048	3/8 x 3/4 WASHER ZP
2	1	R8055	3/8 UNF NYLOC NUT P-TYPE
3	1	T6005	ATTACHING BRACKET TORO 3250
4	2	R8140	1/4 x 9/16 WASHER ZP
5	1	T6006	ATTACHING MOUNT TORO 3250
6	2	R8247	GREASE NIPPLE 1-4UNF
7	1	T6011	SLIDE BUSH TORO 3250

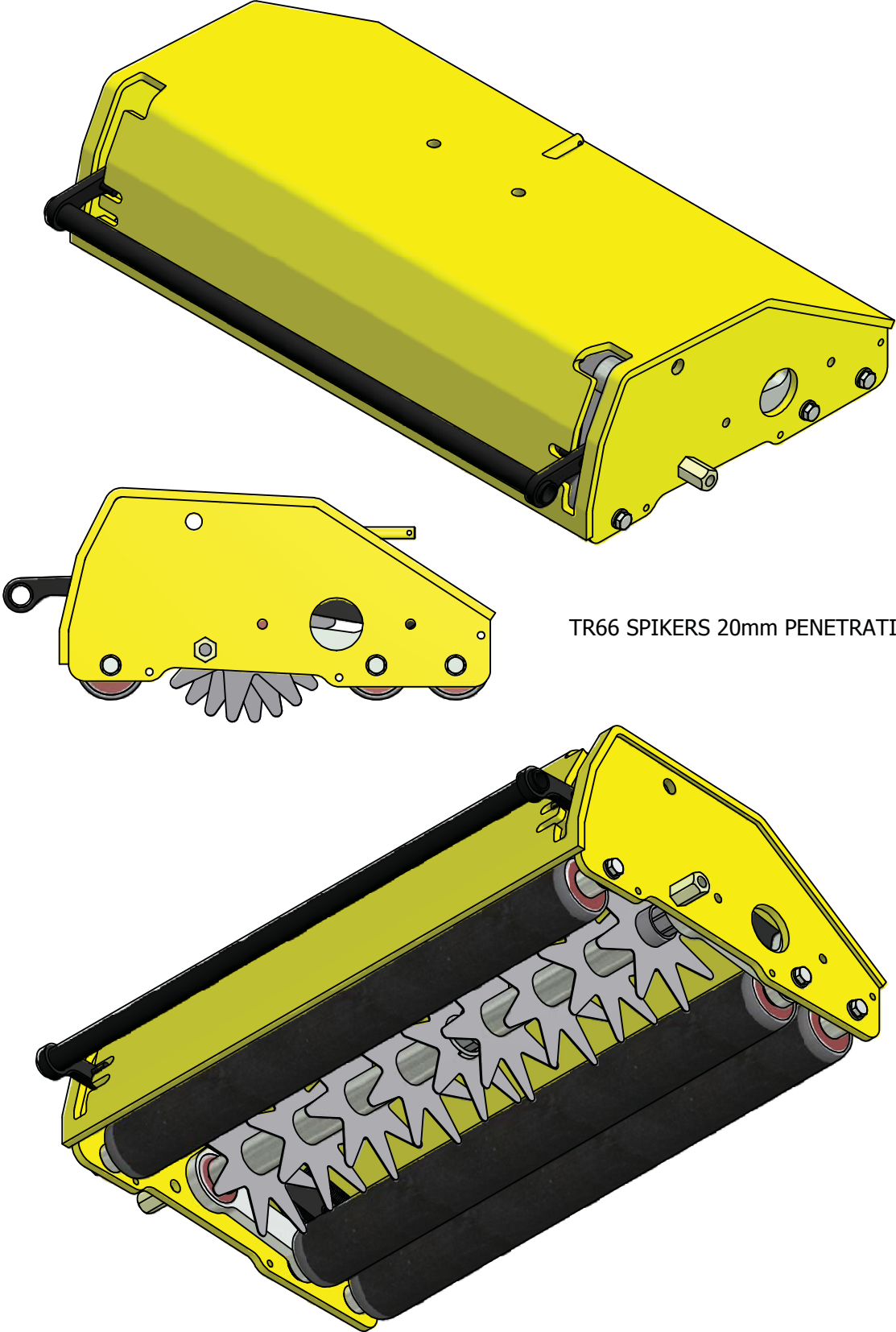
# Head Disengaged



TR66 SPIKERS DISENGAGED

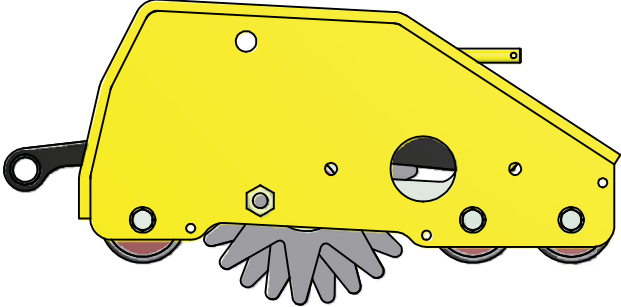
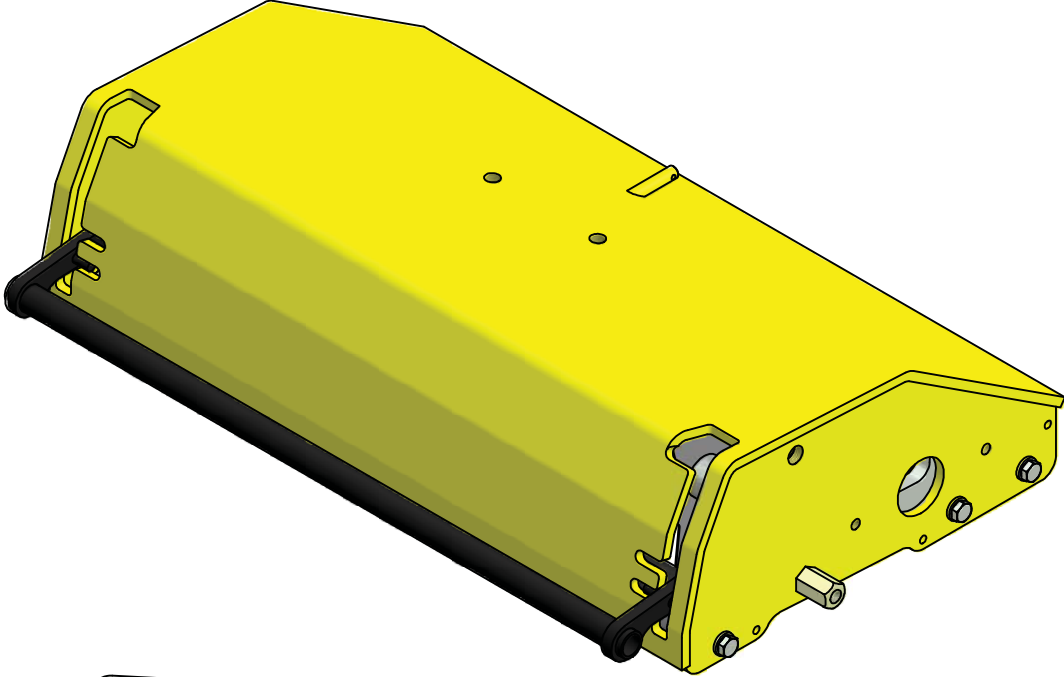


# Head Engaged 20mm



TR66 SPIKERS 20mm PENETRATION

# Head Engaged 30mm



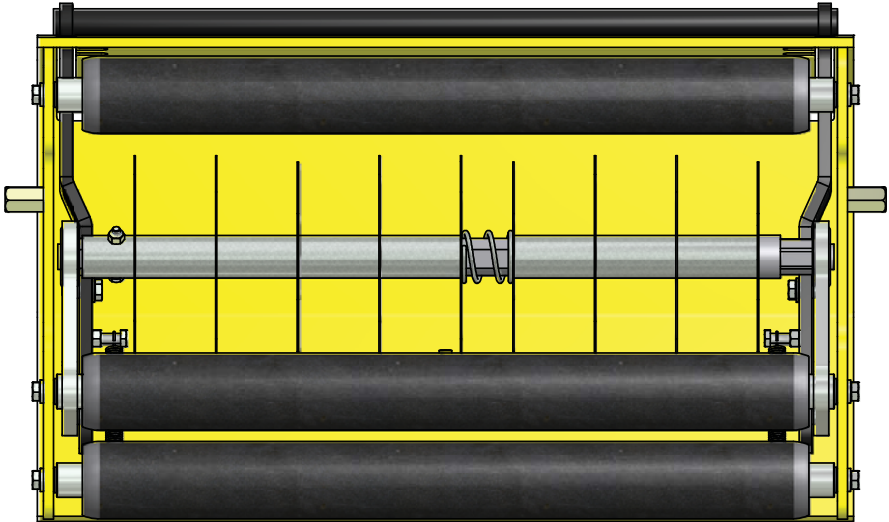
TR66 SPIKERS 30mm PENETRATION



# Underside

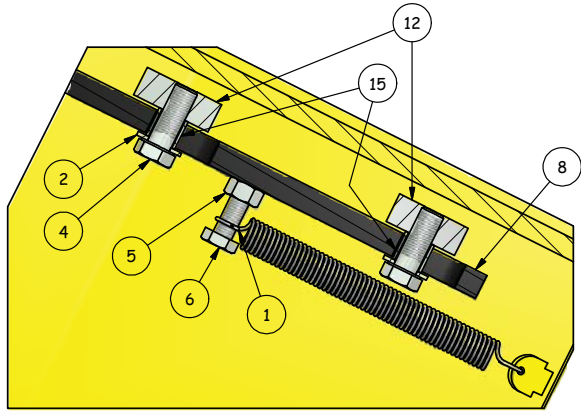


TR66 UNDERSIDE VIEW

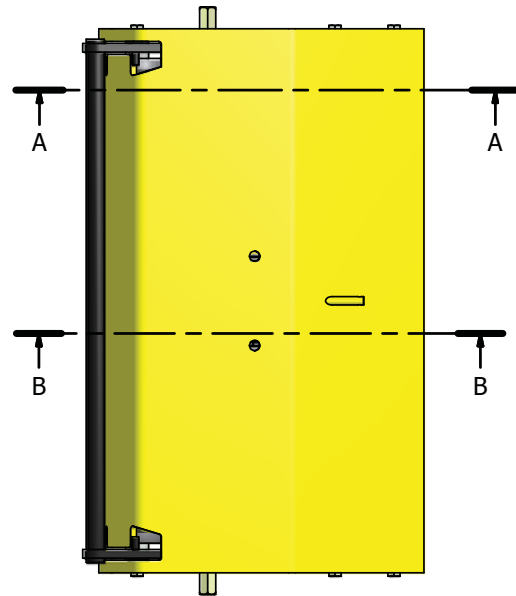




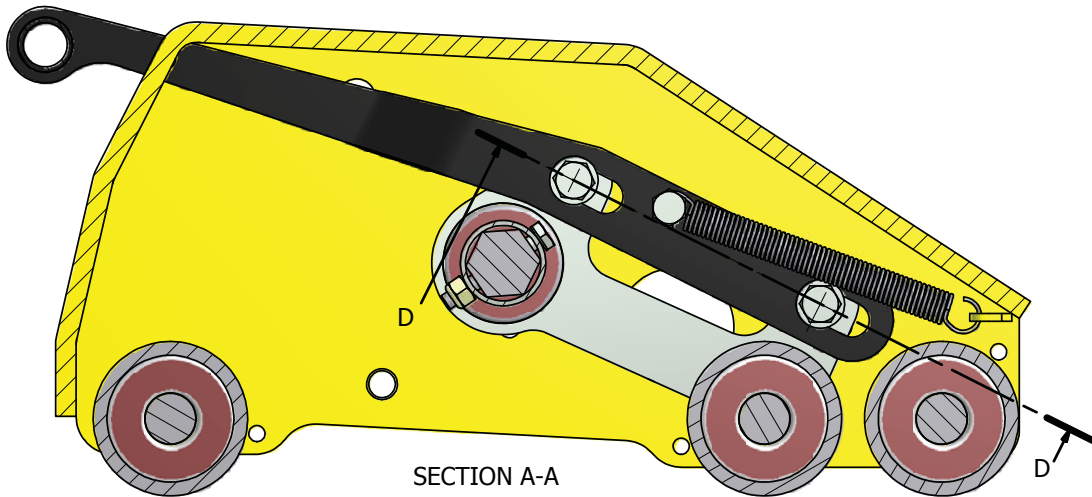
# Sections



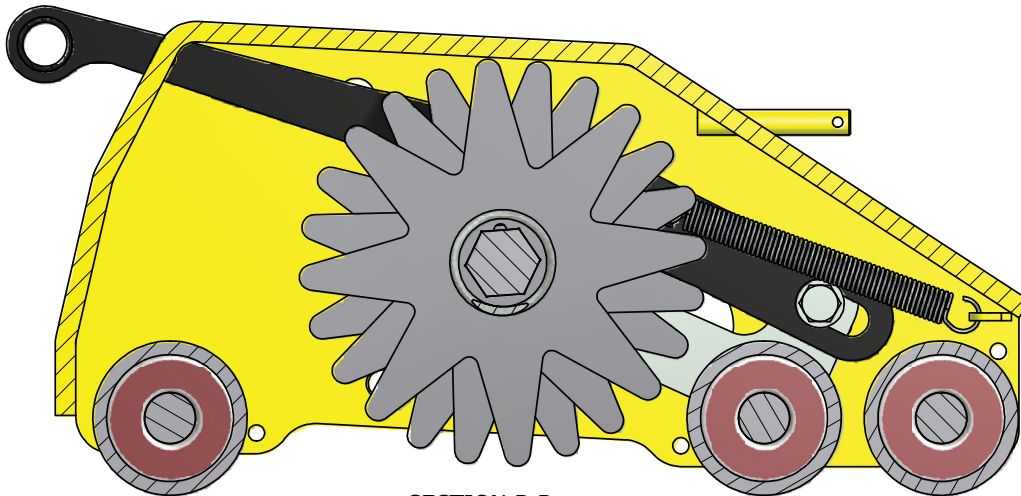
SECTION D-D



TR66 TOP VIEW



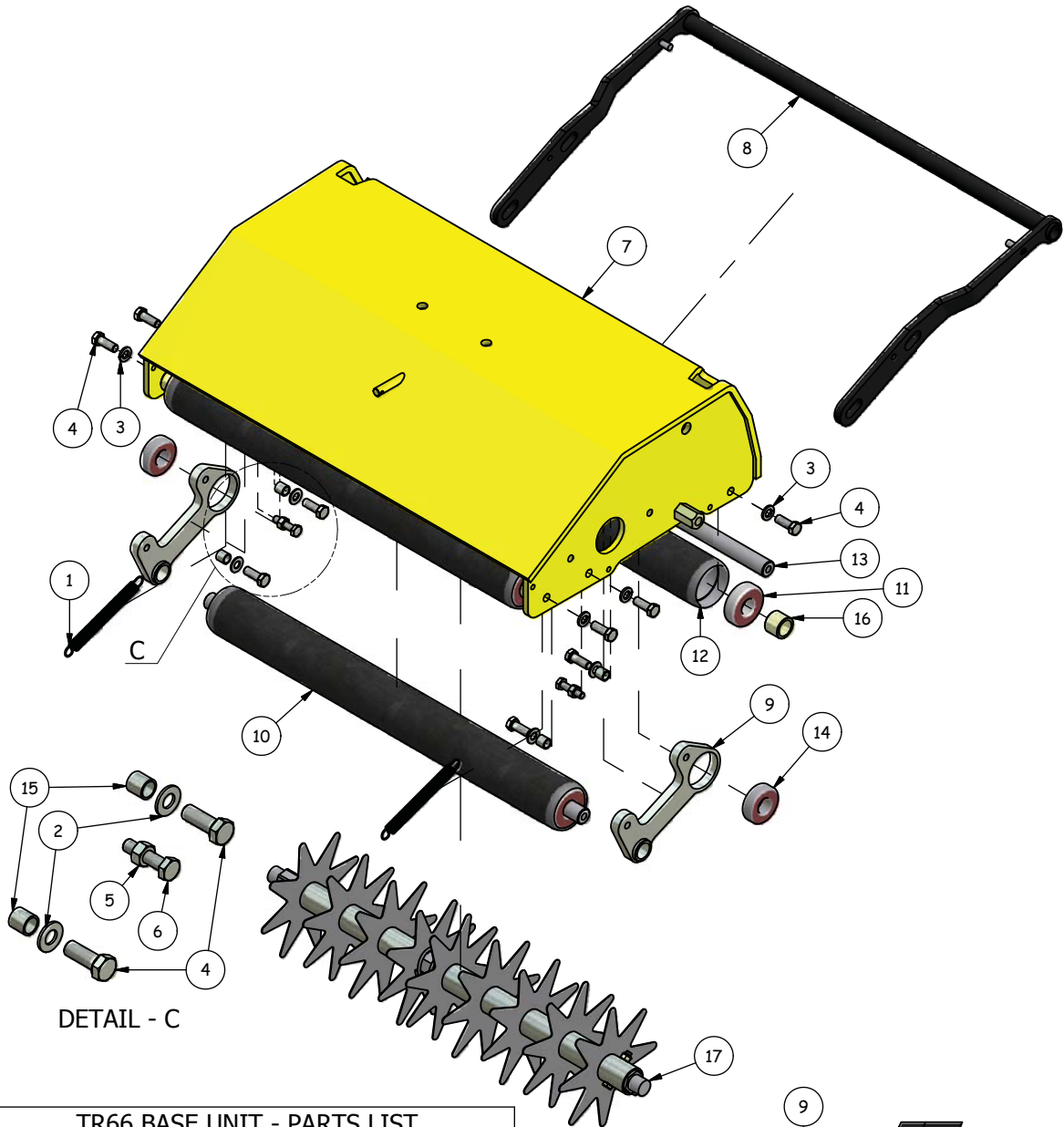
SECTION A-A



SECTION B-B

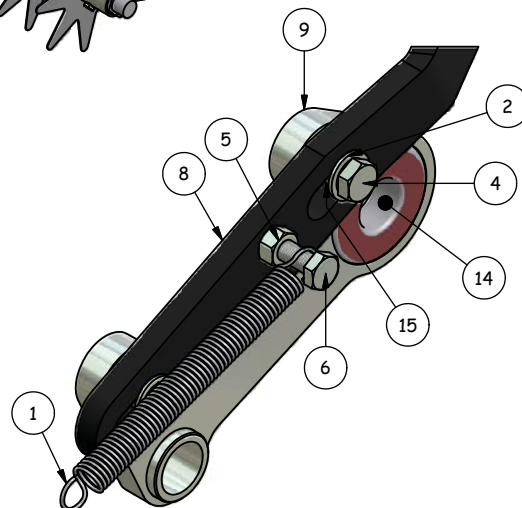


# Base Unit

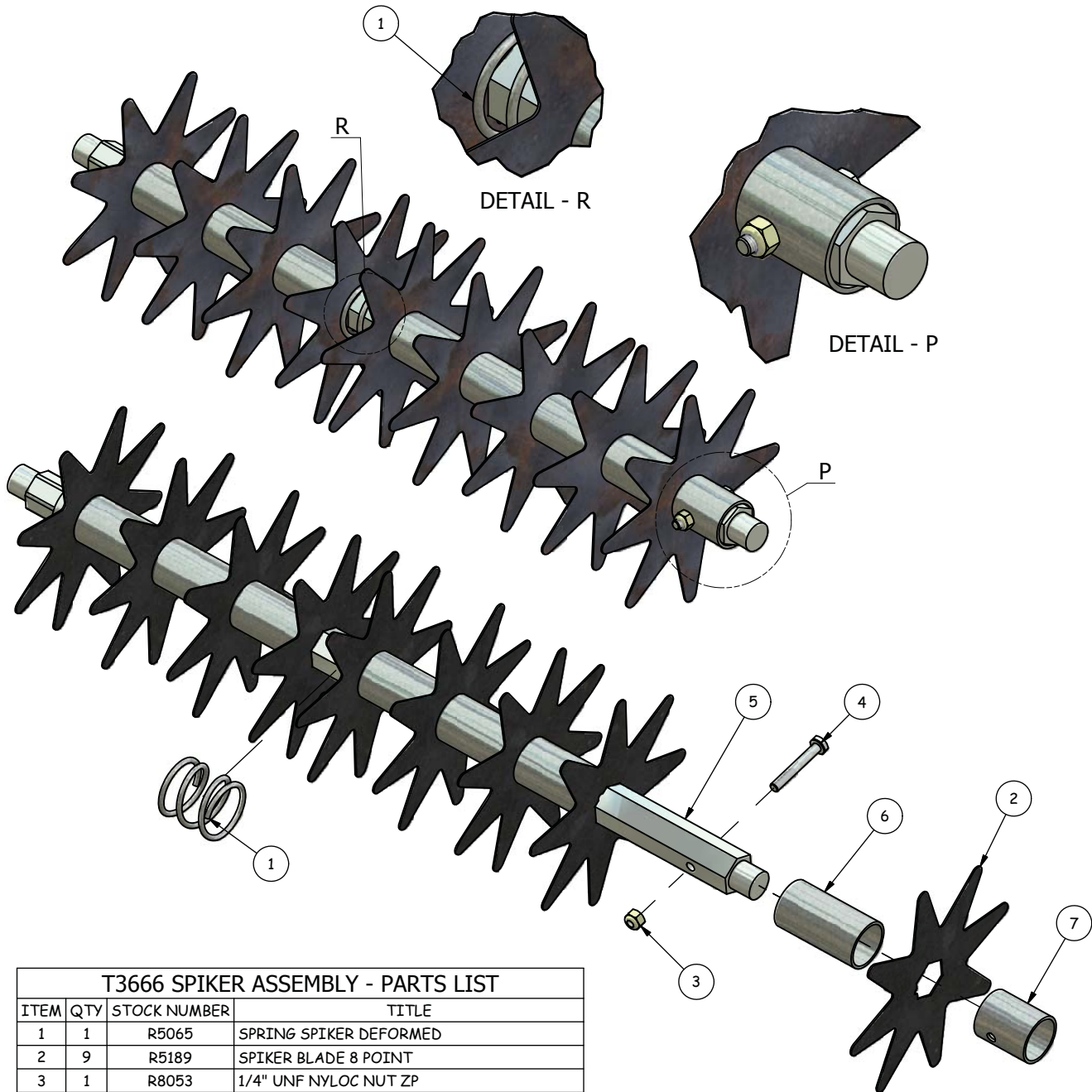


DETAIL - C

TR66 BASE UNIT - PARTS LIST			
ITEM	QTY	STOCK NUMBER	TITLE
1	2	R5049	SPRING
2	4	R8048	3/8 x 3/4 WASHER ZP
3	6	R8052	3/8 SPRING WASHER ZP
4	10	R8067	3/8" x 1" UNF HEX BOLT ZP
5	2	R8175	5/16 HEX NUT UNF ZP
6	2	R8339	5/16 x 1-1/4 UNF BOLT ZP
7	1	T3000	BODY TRIPLEX HEAD
8	1	T3002	HANDLE HEIGHT ADJUSTER
9	2	T3003	SPIKER CRANK
10	3	T3004	SMOOTHING ROLLER ASSY
11	2	R5010	BEARING 6304
12	1	R5082	TUBE SMOOTHING ROLLER
13	1	T3005	SHAFT ROLLER
14	2	T3007	BEARING 6204
15	4	T3011	TUBE SLEEVE
16	4	T3012	SPACER SMOOTHING SHAFT
17	1	T3666	SPIKER ASSY



# Spiker Assembly



T3666 SPIKER ASSEMBLY - PARTS LIST

ITEM	QTY	STOCK NUMBER	TITLE
1	1	R5065	SPRING SPIKER DEFORMED
2	9	R5189	SPIKER BLADE 8 POINT
3	1	R8053	1/4" UNF NYLOC NUT ZP
4	1	R8061	1/4" x 1-3/4" UNF HEX BOLT ZP
5	1	T3008	SPIKER SHAFT
6	7	T3017	TUBE SPIKER SPACER
7	1	T3019	TUBE SPIKER LOCK TUBE