

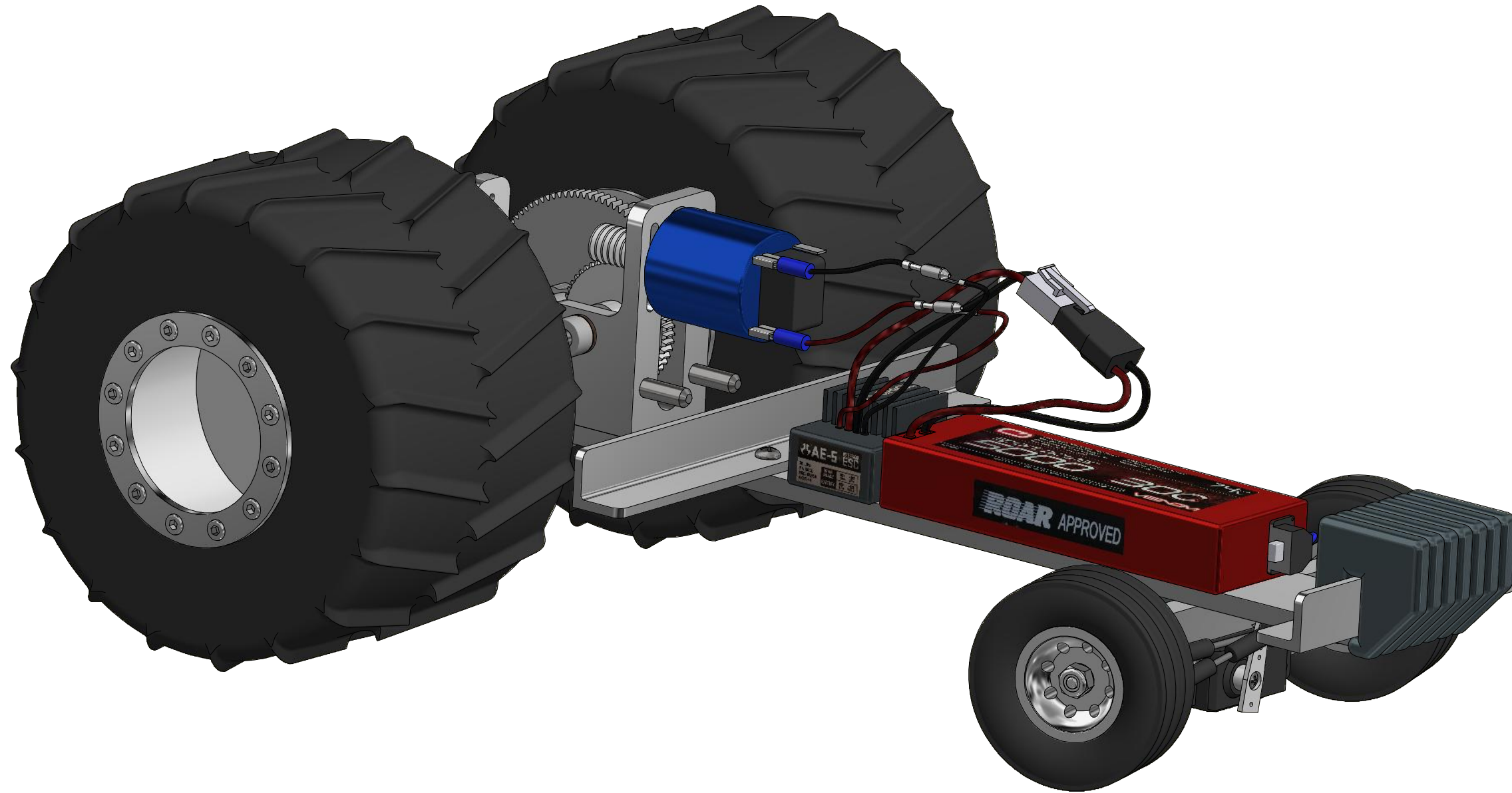
# 1/10th Scale 4-H RC Pulling Tractor



Complete Assembly

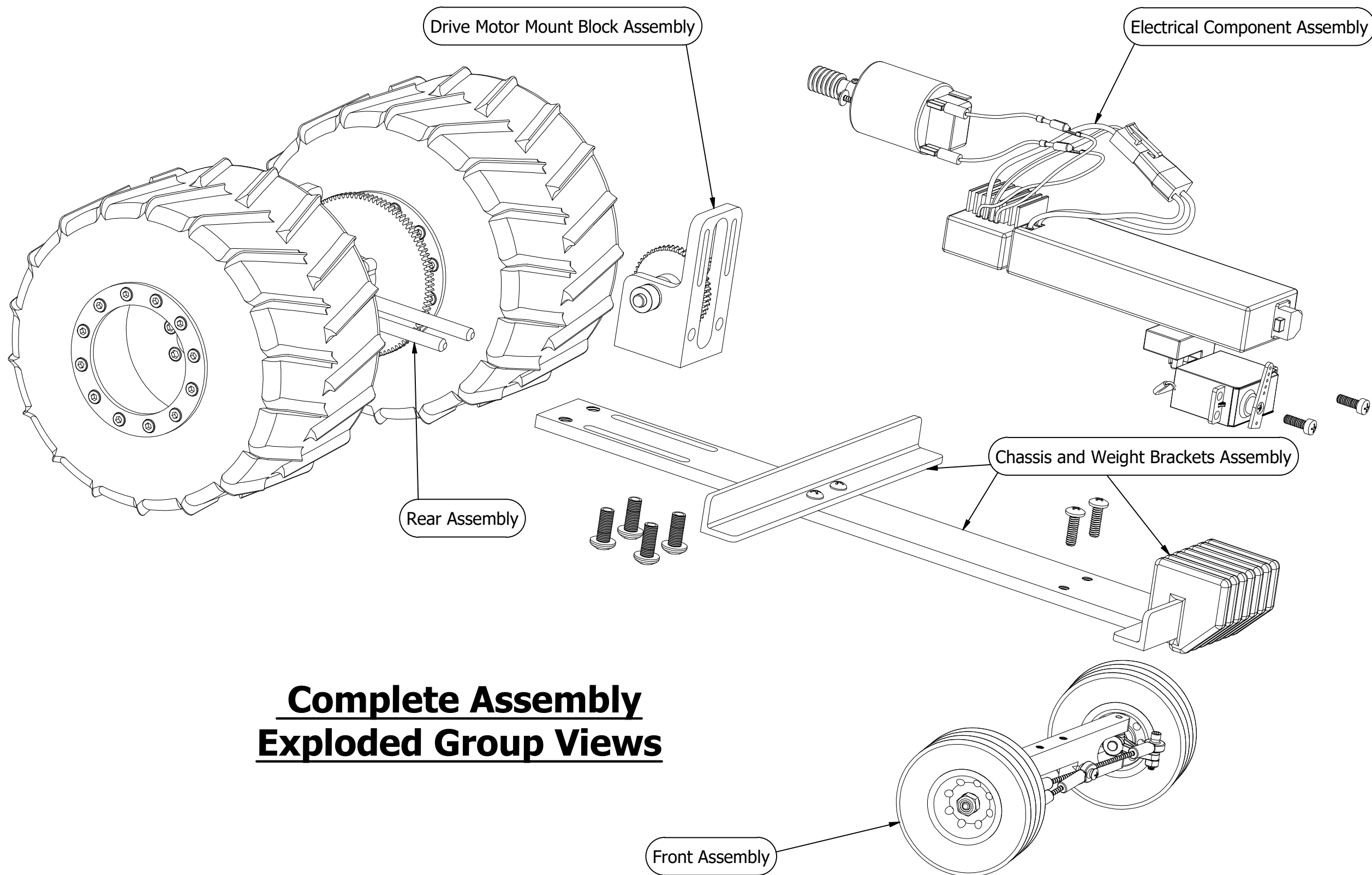
PROJECT	4-H RC Pulling Tractor	DESCRIPTION	4-H RC Pulling Tractor Assembly
<u>TOLERANCES</u>			
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED			
DRAWINGS FOR:			
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<input type="checkbox"/> APPROVAL			
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<input type="checkbox"/> OTHER			
DRAWN BY:		CHECKED BY:	
KBC			
DATE:		DATE:	
		9/11/2019	
DWG NO			
SHEET 1 OF 11			

# 1/10th Scale 4-H RC Pulling Tractor Chassis



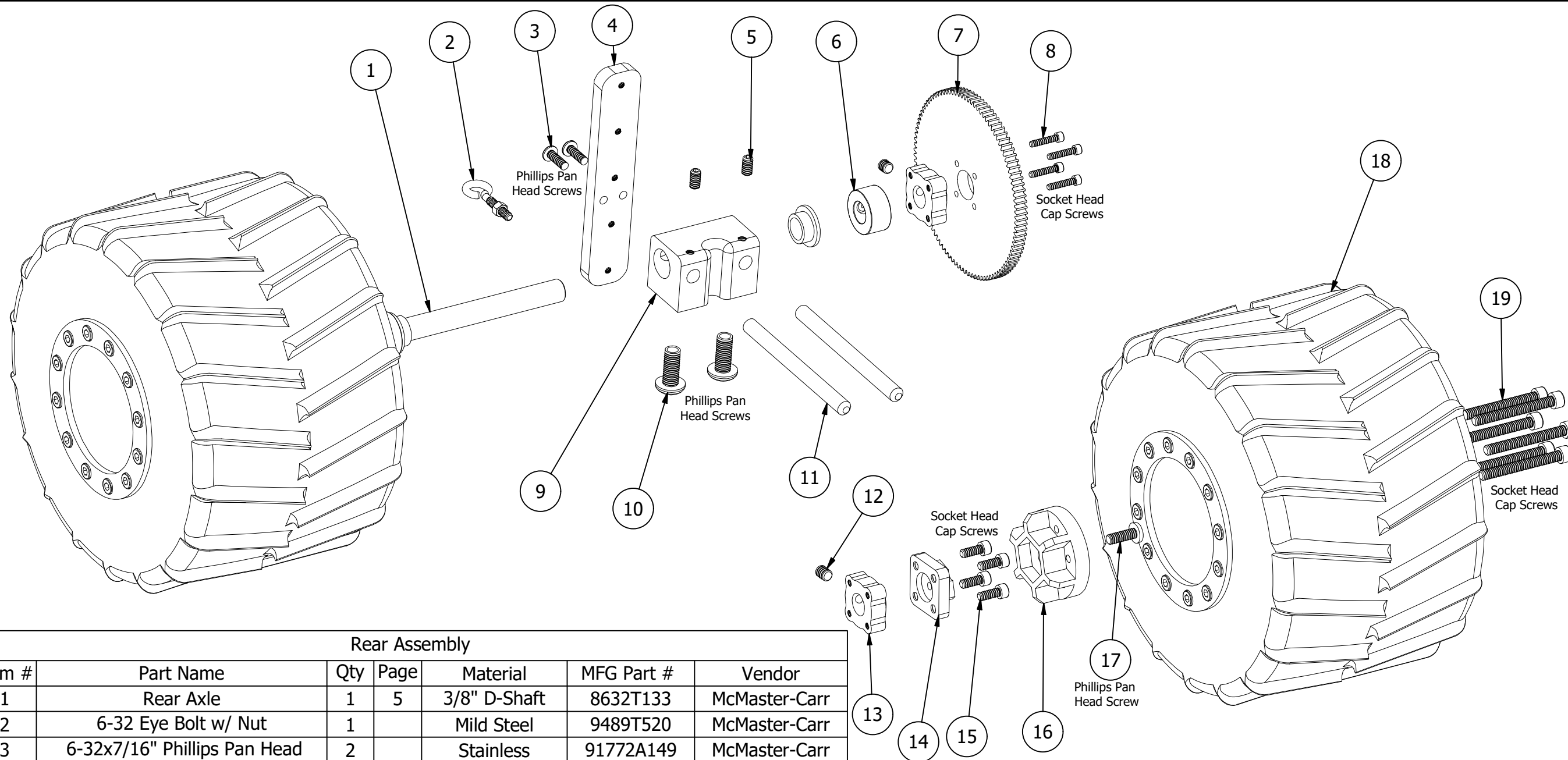
**Complete Chassis Assembly Body Removed**

PROJECT		4-H RC Pulling Tractor	
DESCRIPTION		Chassis Body Removed	
<u>TOLERANCES</u>			
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED			
DRAWINGS FOR:			
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DRAWN BY:		CHECKED BY:	
KBC			
DATE:		DATE:	
		9/11/2019	
DWG NO			
SHEET 2 OF 11			



**Complete Assembly**  
**Exploded Group Views**

PROJECT		4-H RC Pulling Tractor	
DESCRIPTION		Exploded Assemblies	
TOLERANCES			
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED			
DRAWINGS FOR:			
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<input type="checkbox"/> OTHER			
DRAWN BY:		CHECKED BY:	
KBC			
DATE:		DATE:	
		9/11/2019	
DWG NO			
SHEET 3 OF 11			



Rear Assembly						
Item #	Part Name	Qty	Page	Material	MFG Part #	Vendor
1	Rear Axle	1	5	3/8" D-Shaft	8632T133	McMaster-Carr
2	6-32 Eye Bolt w/ Nut	1		Mild Steel	9489T520	McMaster-Carr
3	6-32x7/16" Phillips Pan Head	2		Stainless	91772A149	McMaster-Carr
4	Hitch Plate	1	5	Aluminum		
5	8-32x3/16" Flat Point Set Screw	2		Stainless	94355A182	McMaster-Carr
6	3/8" Shaft Collar	2		Zinc Plated Steel	6432K140	McMaster-Carr
7	100 Tooth 32-Pitch Spur	1	5	Acetal	RHA32-36-100	Servocity.com
8	4-40x1/2" Socket Head	4		Stainless	92949A110	McMaster-Carr
9	Rear Axle Block	1	5	Aluminum		
10	1/4-20x5/8" Phillips Pan Head	2		Stainless	91772A539	McMaster-Carr
11	Motor Block Guide Rods	2	5	Stainless	89325K91	McMaster-Carr
12	10-32x1/4" Flat Point Set Screw	2		Stainless	94355A330	McMaster-Carr
13	Drive Hub 1	3		Aluminum	545556	Servocity.com
14	Drive Hub 2	2		Aluminum	545556	Servocity.com
15	6-32x3/8" Socket Head	8		Stainless	92196A146	McMaster-Carr
16	Clod Wheel Adapter	2		Aluminum	Z-S1866	Store.rc4wd.com
17	8-32x1/2" Phillips Pan Head	2		Stainless	91735A194	McMaster-Carr
18	Rear Wheel Assy	2			Z-T0015	Store.rc4wd.com
19	8-32x1-1/2" Socket Head	12		Stainless	92949A203	McMaster-Carr

## Complete Rear Assembly Exploded View

PROJECT  
4-H RC Pulling Tractor

DESCRIPTION  
Rear Assembly Exploded

TOLERANCES

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

DRAWINGS FOR:

- INFORMATION
- SUBMITTAL
- APPROVAL
- CONSTRUCTION
- OTHER

DRAWN BY: CHECKED BY:

KBC

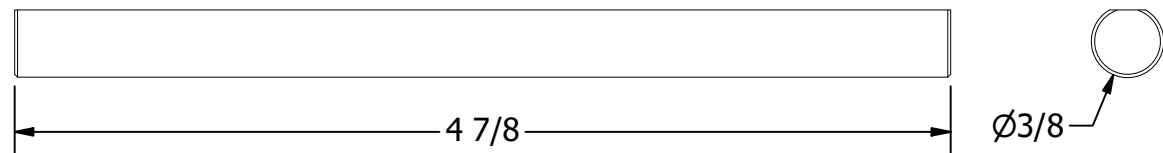
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DATE:

9/11/2019

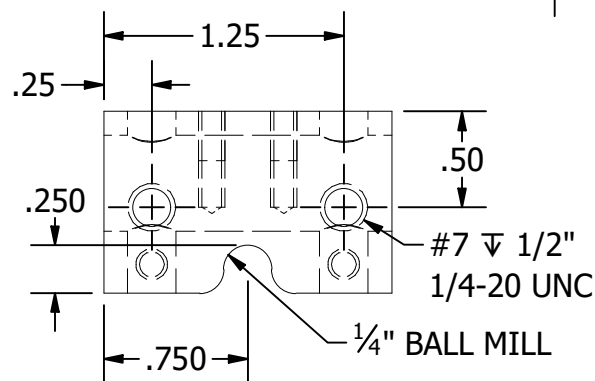
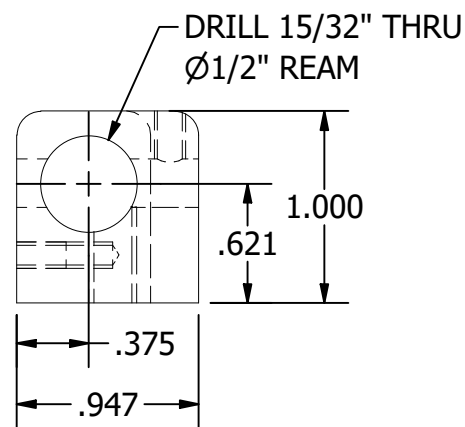
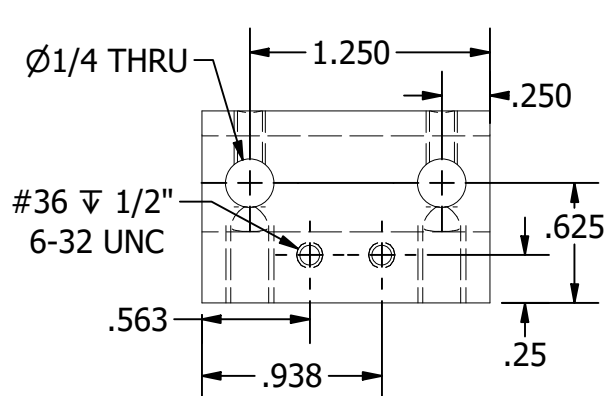
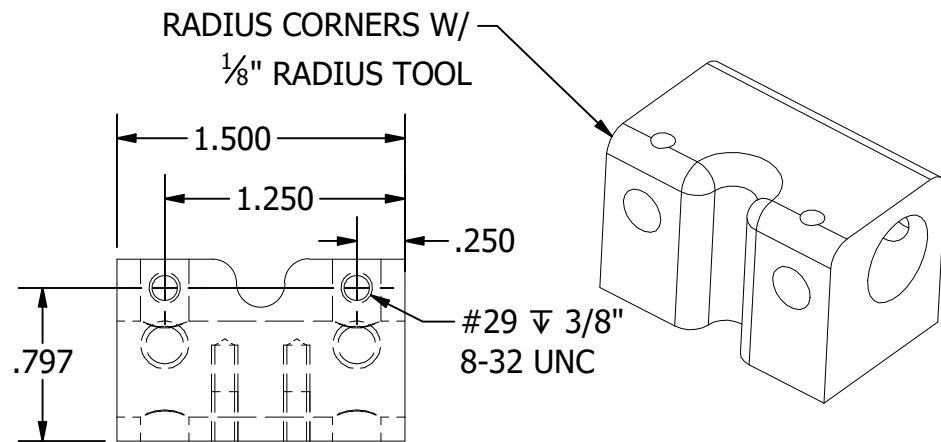
DWG NO

SHEET 4 OF 11



**1 - Rear Axle**

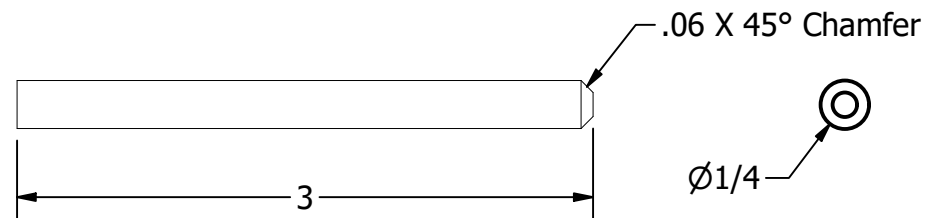
316 Stainless Steel 3/8" D-Shaft  
Full Scale - 1 Reqd



**9 - Rear Axle Block**

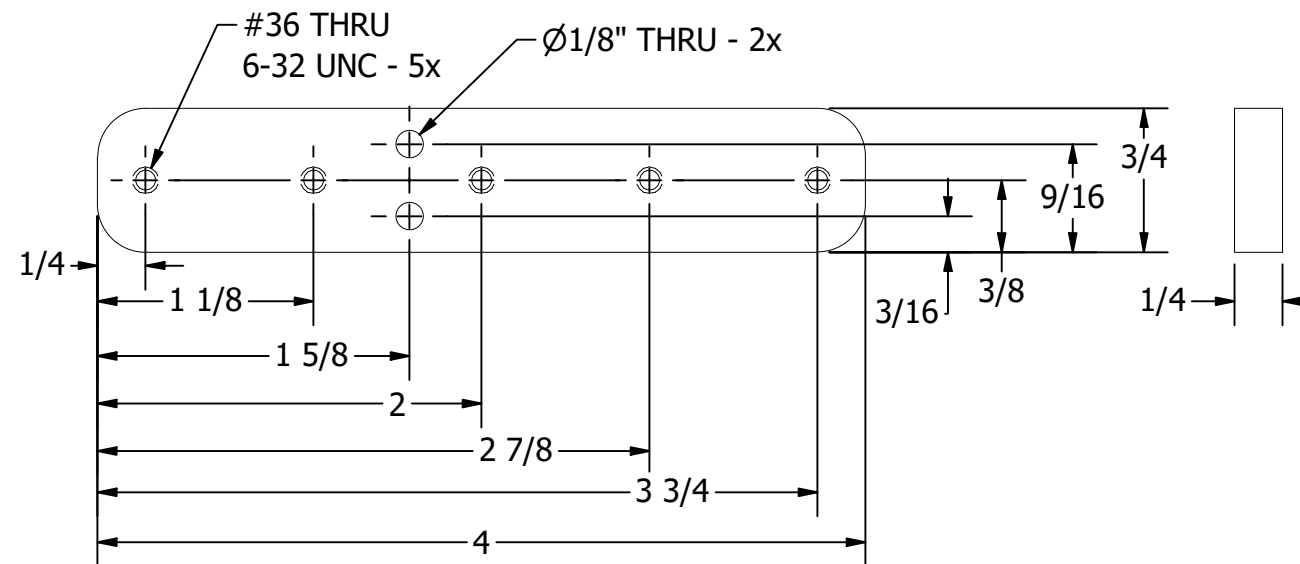
6061 Aluminum Block  
Full Scale - 1 Reqd

NOTE: DECIMALS USED FOR MILLING MACHINE PRECISION



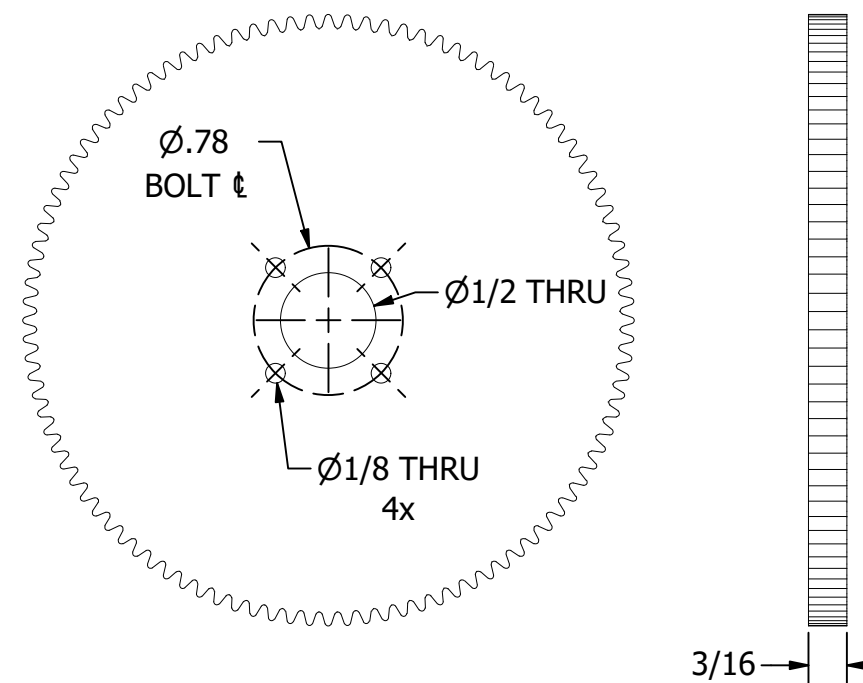
**11 - Motor Mount Block Guide Rods**

316 Stainless Steel 1/4" Rod  
Full Scale - 2 Reqd



**4 - Hitch Plate**

6061 1/4" Aluminum Flat  
Full Scale - 1 Reqd

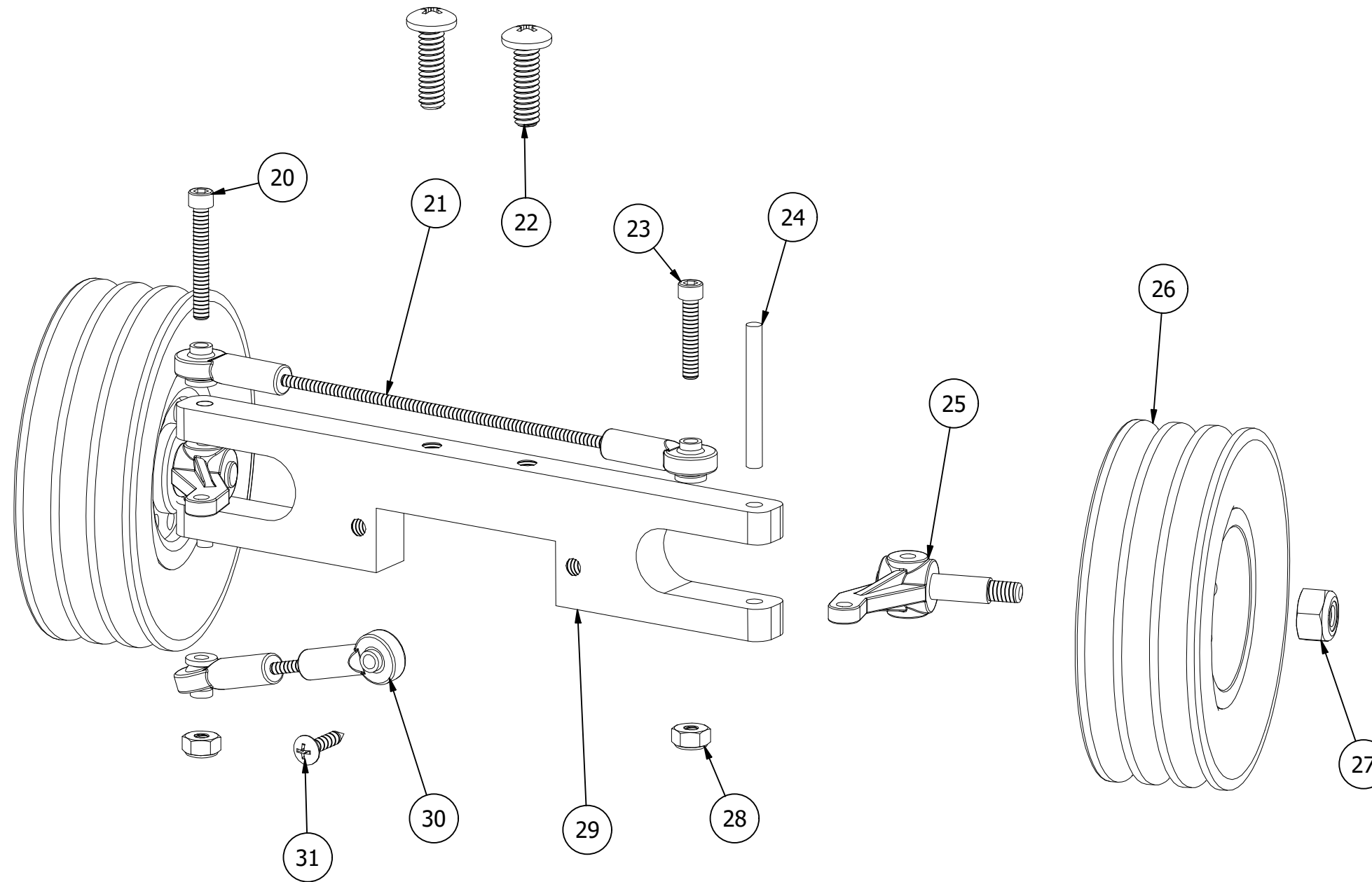


**7 - 100 Tooth 32 Pitch Spur Gear**

Acetal  
Full Scale - 1 Reqd

TUK BIOSYSTEMS AND AGRICULTURAL ENGINEERING

PROJECT		4-H RC Pulling Tractor	
DESCRIPTION		Rear Assembly Parts	
TOLERANCES			
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED			
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DRAWN BY:		CHECKED BY:	
KBC			
DATE:		DATE:	
		9/11/2019	
DWG NO			
SHEET 5 OF 11			



PROJECT	4-H RC Pulling Tractor
DESCRIPTION	Front Assembly Exploded

TOLERANCES

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

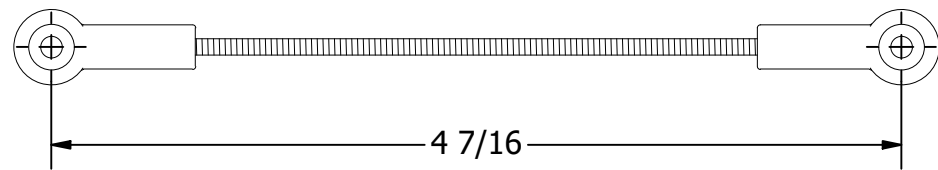
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  - CONSTRUCTION
  - OTHER

DRAWN BY:	CHECKED BY:
KBC	
DATE:	DATE:
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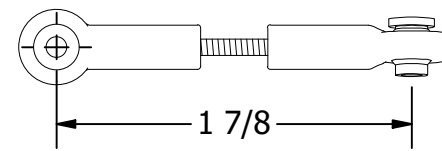
DWG NO
SHEET 6 OF 11

## Complete Front Assembly Exploded View

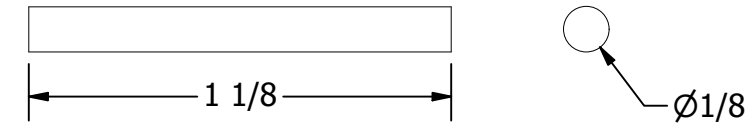
Front Assembly						
Item #	Part Name	Qty	Page	Material	MFG Part #	Vendor
20	4-40x7/8" Socket Head	1		Stainless	91735A115	McMaster-Carr
21	Tie Rod	1	7	NA	585432	Servocity.com
22	10-24x5/8" Phillips Pan Head	2		Stainless	91772A244	McMaster-Carr
23	4-40x5/8" Socket Head	1		Stainless	91772A112	McMaster-Carr
24	Spindle Pin	2	7	Stainless	89325K88	McMaster-Carr
25	Steering Spindle	2		NA	50395	Tamiyausa.com
26	Front Wheel Assy	2		NA	Z-W0164/Z-T0114	Store.rc4wd.com
27	10-32 Nyloc Nut	2		Stainless	91801A411	McMaster-Carr
28	4-40 Nyloc Nut	2		Stainless	91831A005	McMaster-Carr
29	Front Axle Block	1	7	Aluminium		
30	Drag Link	1	7	NA	585432	Servocity.com
31	No.3-48 Tapping Screw	1		Stainless	92949A110	McMaster-Carr



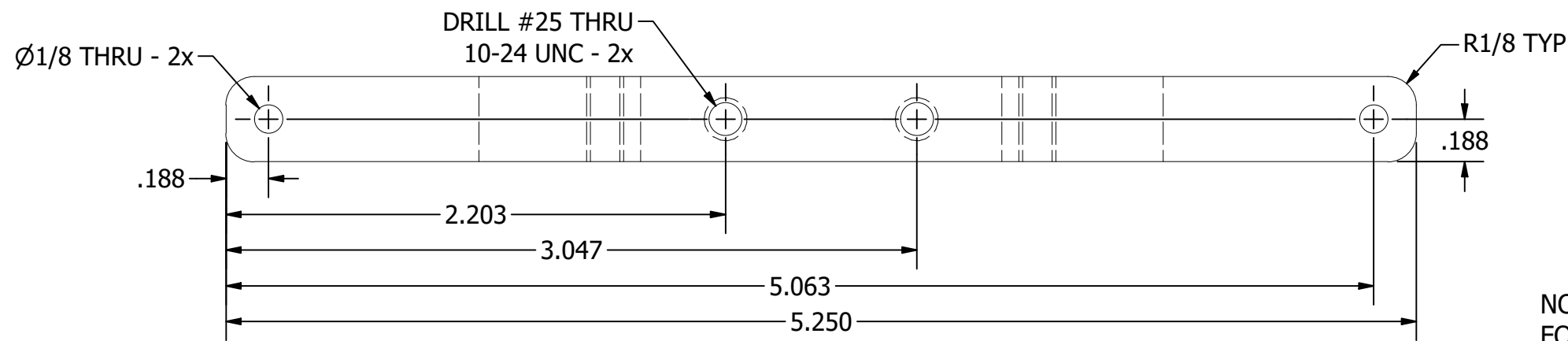
**21 - Tie Rod**  
Full Scale - 1 Reqd



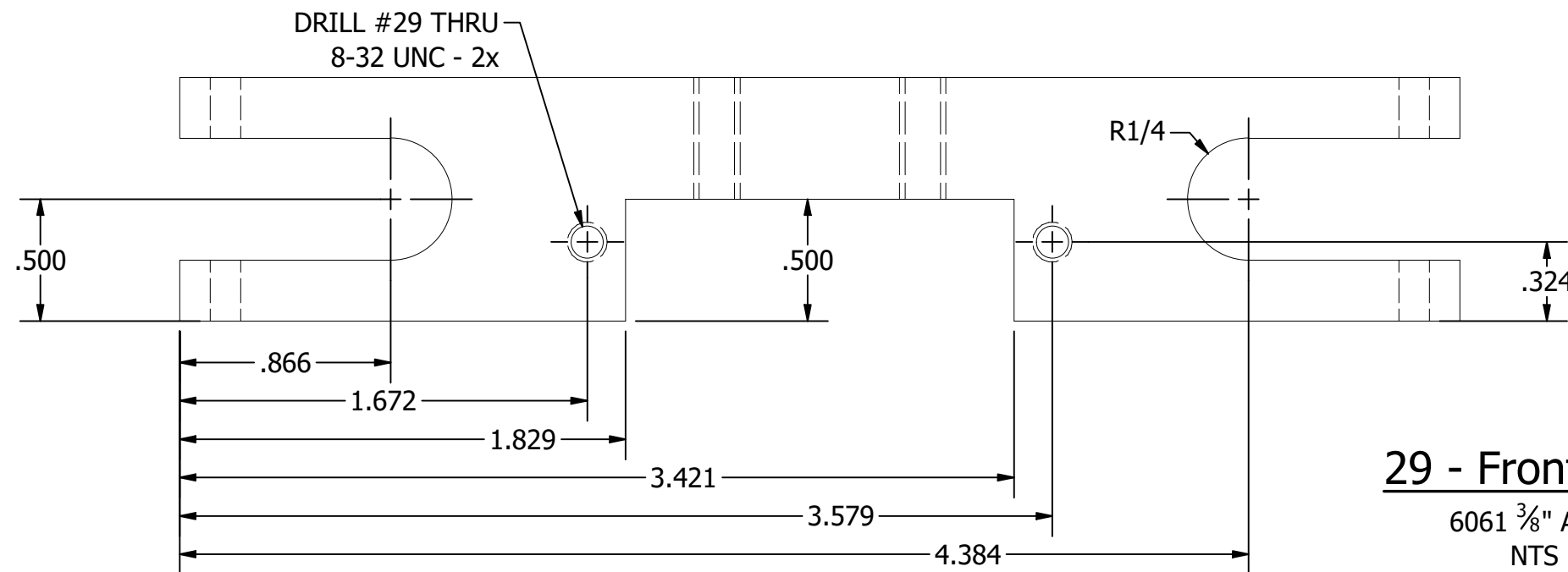
**30 - Drag Link**  
Full Scale - 1 Reqd



**24 - Spindle Pin**  
316 Stainless Steel 1/8" Shaft  
Full Scale - 2 Reqd



NOTE: DECIMALS USED FOR MILLING MACHINE PRECISION

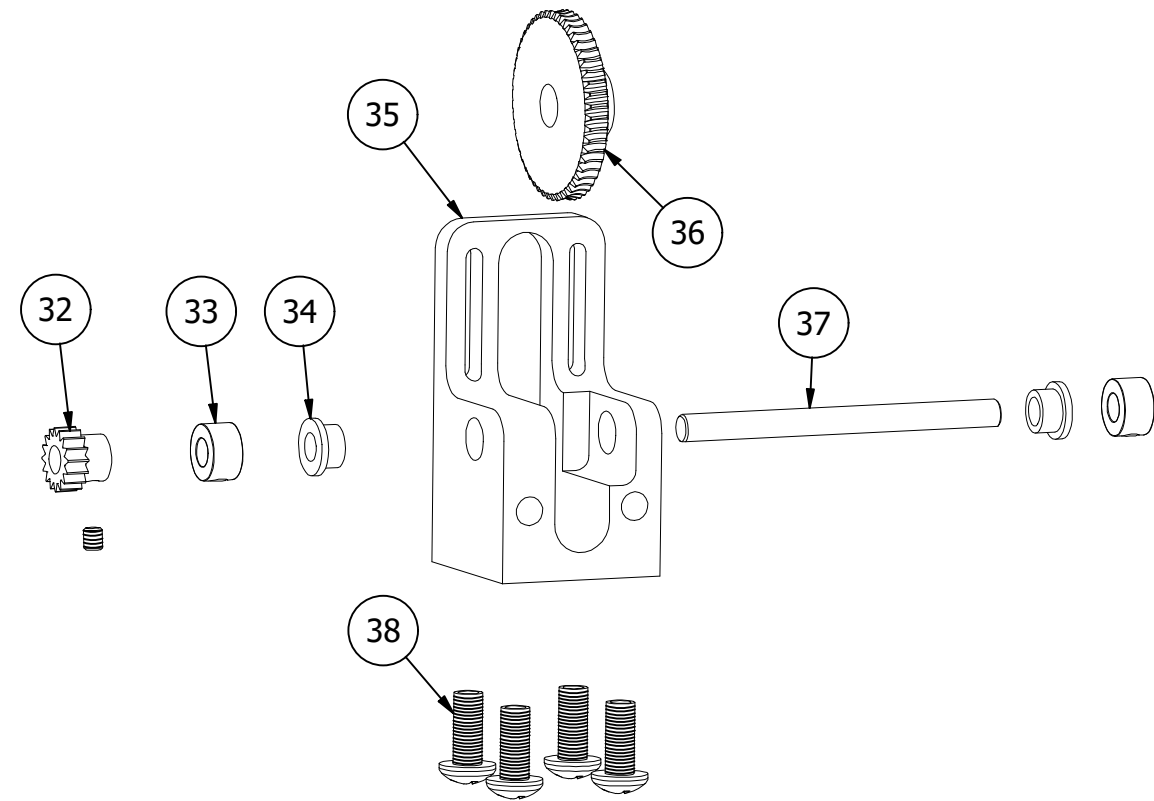


**29 - Front Axle Block**  
6061 3/8" Aluminum Flat  
NTS - 1 Reqd

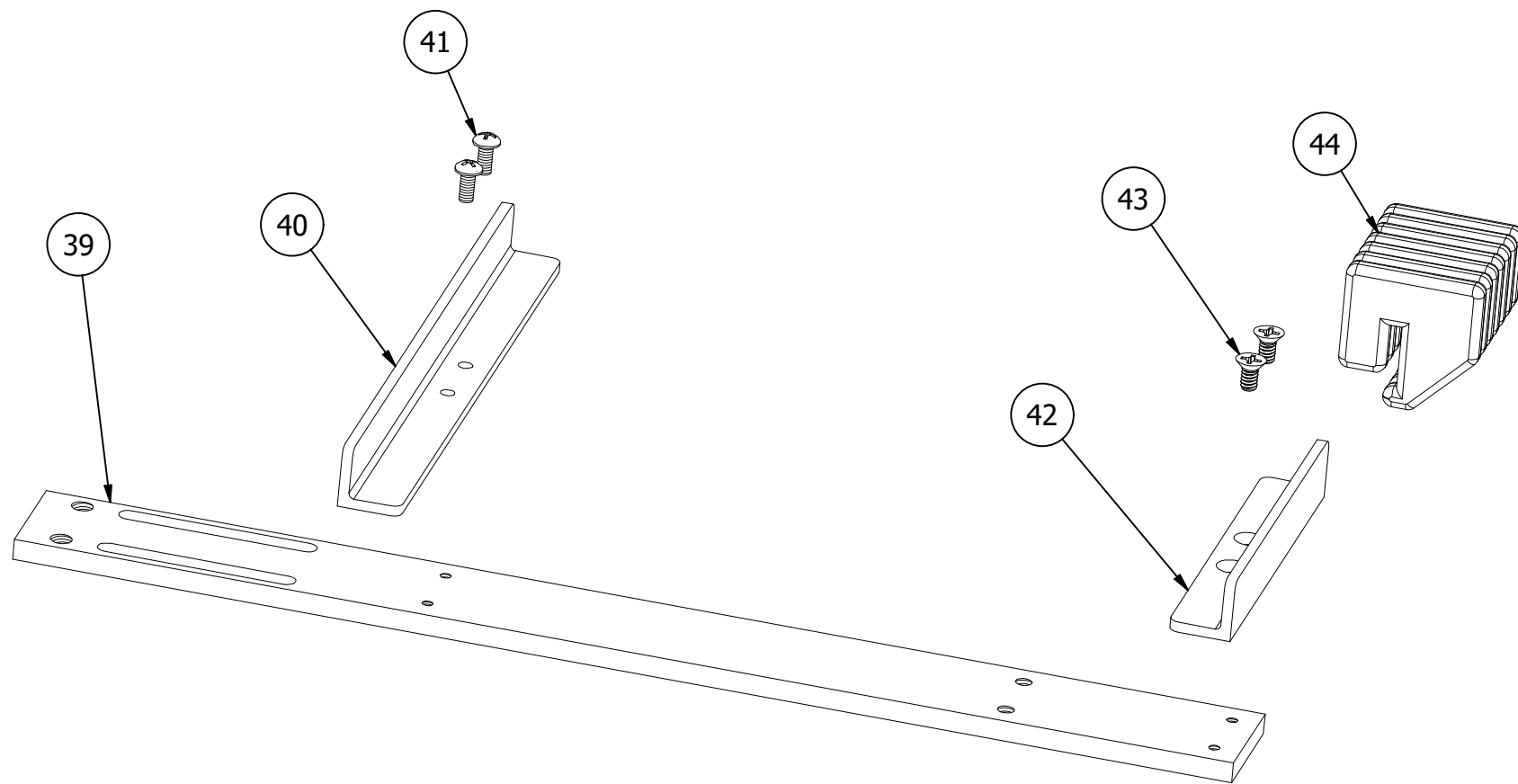
PROJECT		4-H RC Pulling Tractor	
DESCRIPTION		Front Assembly Parts	
TOLERANCES			
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DRAWN BY:		CHECKED BY:	
KBC			
DATE:		DATE:	
		9/11/2019	
DWG NO			
SHEET 7 OF 11			

Motor Mount and Drive Assy

Item #	Part Name	Qty	Page	Material	MFG Part #	Vendor
32	16 Tooth-32 Pitch	1		Brass	634080	Servocity.com
33	1/4" Shaft Collar	2		Mild Steel	6432K12	Servocity.com
34	1/4" Sleeve Bearing	2		Bronze	6338K411	McMaster-Carr
35	Motor Mount Block	1	9	Aluminum		
36	50 Tooth Worm Gear	1		Brass	G1029	Mrosupply.com
37	Drive Shaft	1	10	Stainless	8632T145	McMaster-Carr
38	1/4-20x5/8" Phillips Pan Head	4		Stainless	91772A539	McMaster-Carr



**Motor Mount Block Assembly  
Exploded View**



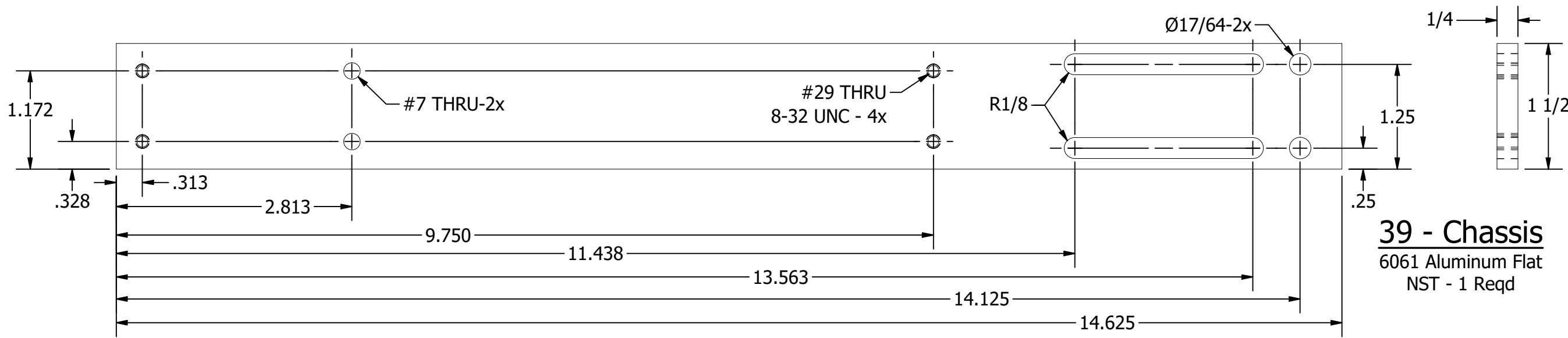
**Chassis/Weight Bracket Assembly  
Exploded View**

Chassis and Weight Brackets						
Item #	Part Name	Qty	Page	Material	MFG Part #	Vendor
39	Chassis	1	9	Aluminum		
40	Rear Weight Bracket	1	10	Aluminum		
41	8-32x3/8" Phillips Pan Head	2		Stainless	91772A192	McMaster-Carr
42	Front Weight Bracket	1	10	Aluminum		
43	8-32x3/8" Hex Drive Flat Head	2		Stainless	92210A192	McMaster-Carr
44	Weights			Lead		

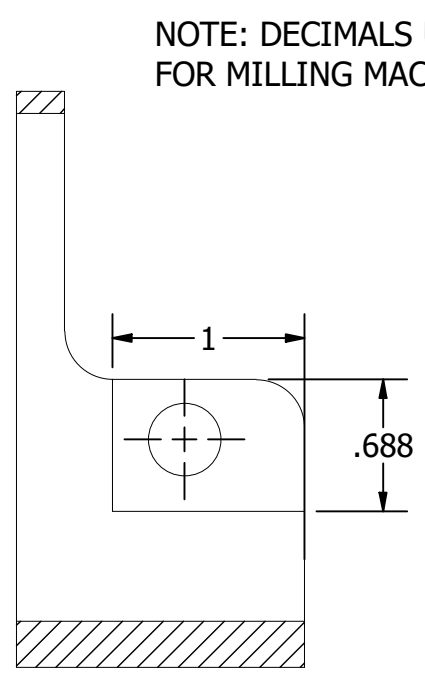
**UK BIOSYSTEMS AND AGRICULTURAL ENGINEERING**

PROJECT		4-H RC Pulling Tractor	
DESCRIPTION		Motor Mount/Chassis and Weight Bracket Assembly Exploded	
TOLERANCES			
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED			
DRAWINGS FOR:			
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KBC			
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		9/11/2019	
DWG NO			
SHEET 8 OF 11			



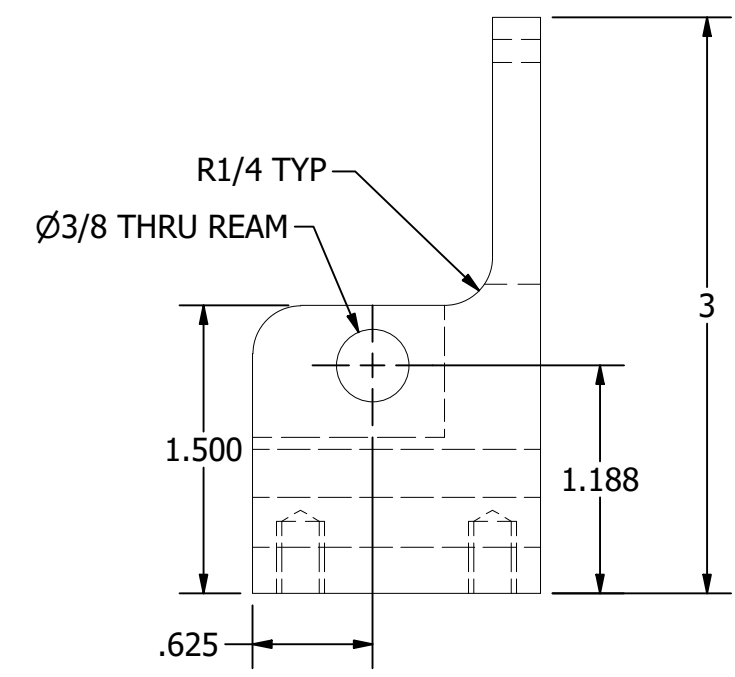
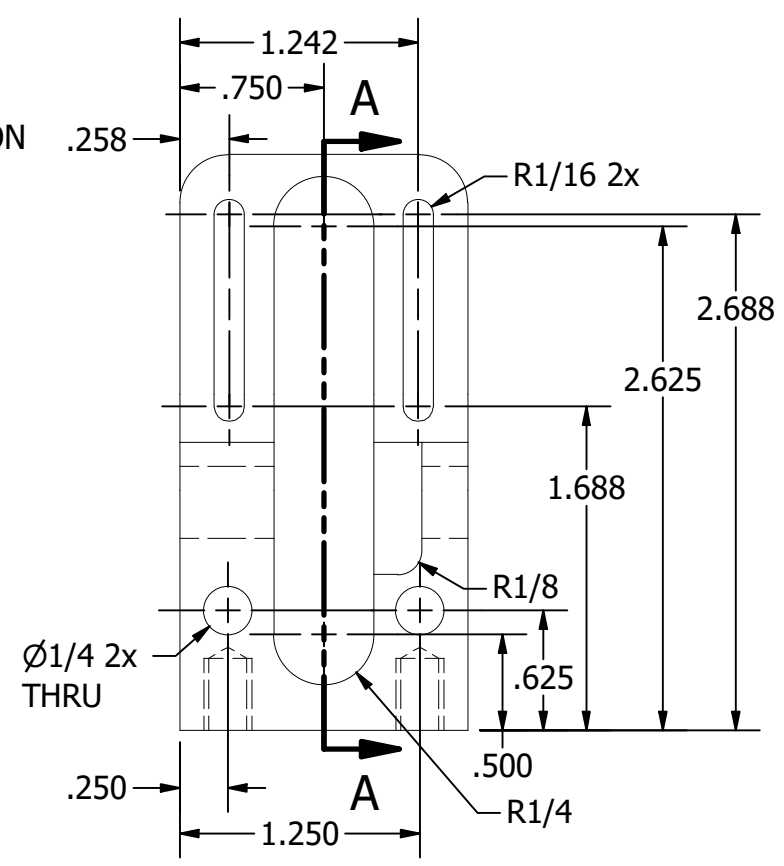


**39 - Chassis**  
6061 Aluminum Flat  
NST - 1 Req'd

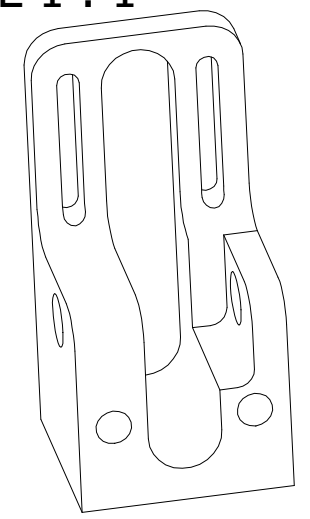
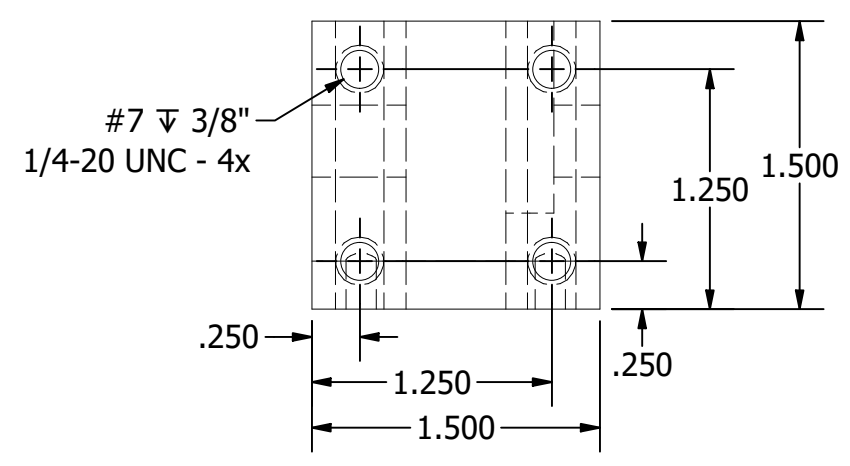


**SECTION A-A**  
SCALE 1 : 1

NOTE: DECIMALS USED FOR MILLING MACHINE PRECISION



**35 - Motor Mount Block**  
6061 Aluminum Block  
Full Scale - 1 Req'd



**BIOSYSTEMS AND AGRICULTURAL ENGINEERING**

PROJECT	4-H RC Pulling Tractor
DESCRIPTION	Motor Mount Block/Chassis

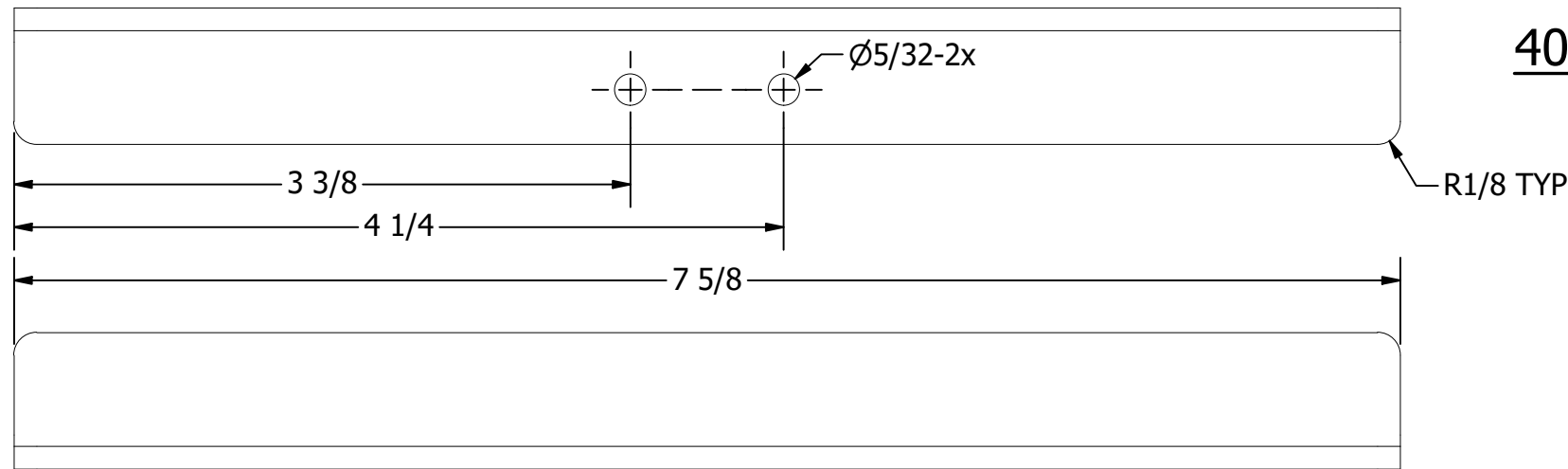
TOLERANCES
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ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

- DRAWINGS FOR:
- INFORMATION
  - SUBMITTAL
  - APPROVAL
  - CONSTRUCTION
  - OTHER

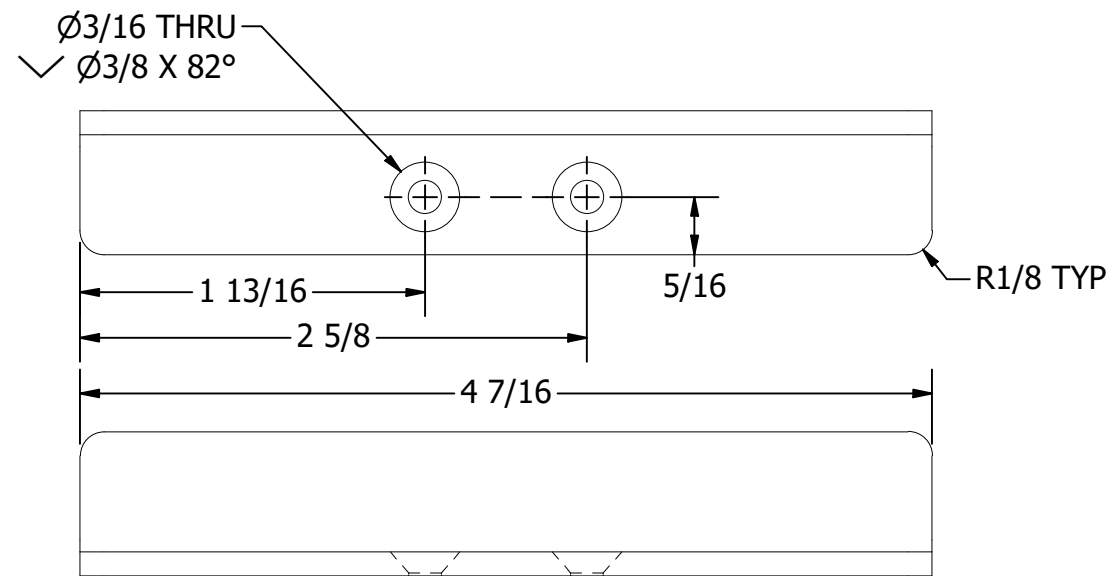
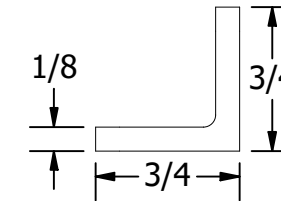
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KBC	
DATE:	DATE:
	9/11/2019

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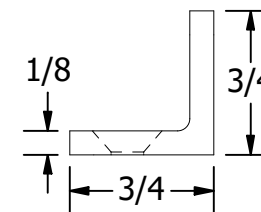
### 40 - Rear Weight Bracket

6061 3/4" Aluminum Angle  
Full Scale - 1 Reqd



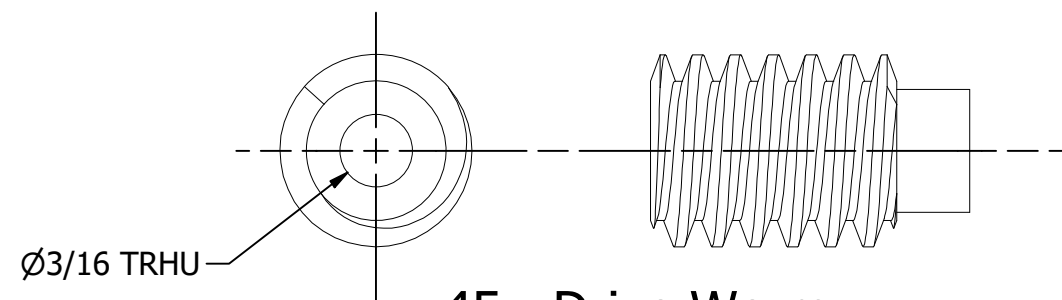
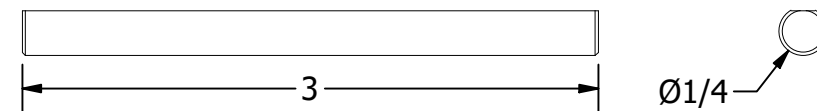
### 42 - Front Weight Bracket

6061 3/4" Aluminum Angle  
Full Scale - 1 Reqd



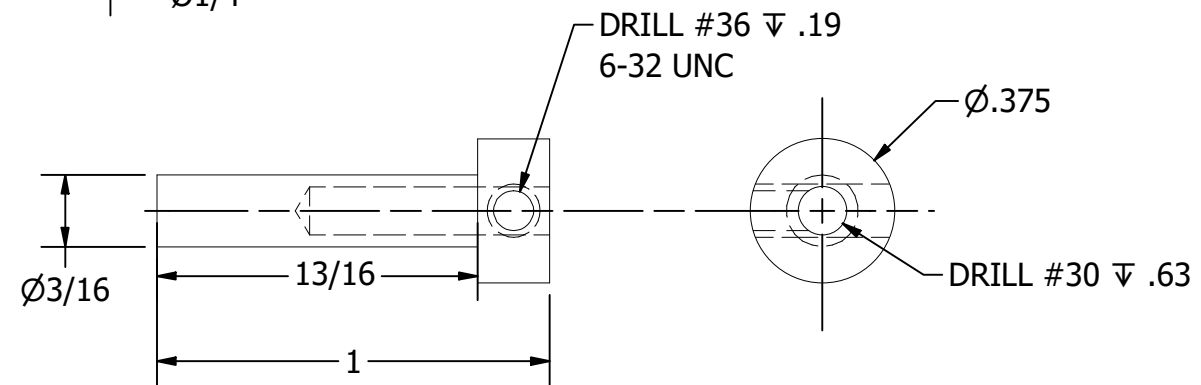
### 37 - Drive Shaft

316 Stainless Steel 1/4" D-Shaft  
Full Scale - 1 Reqd



### 45 - Drive Worm

Mild Steel  
2X Scale - 1 Reqd



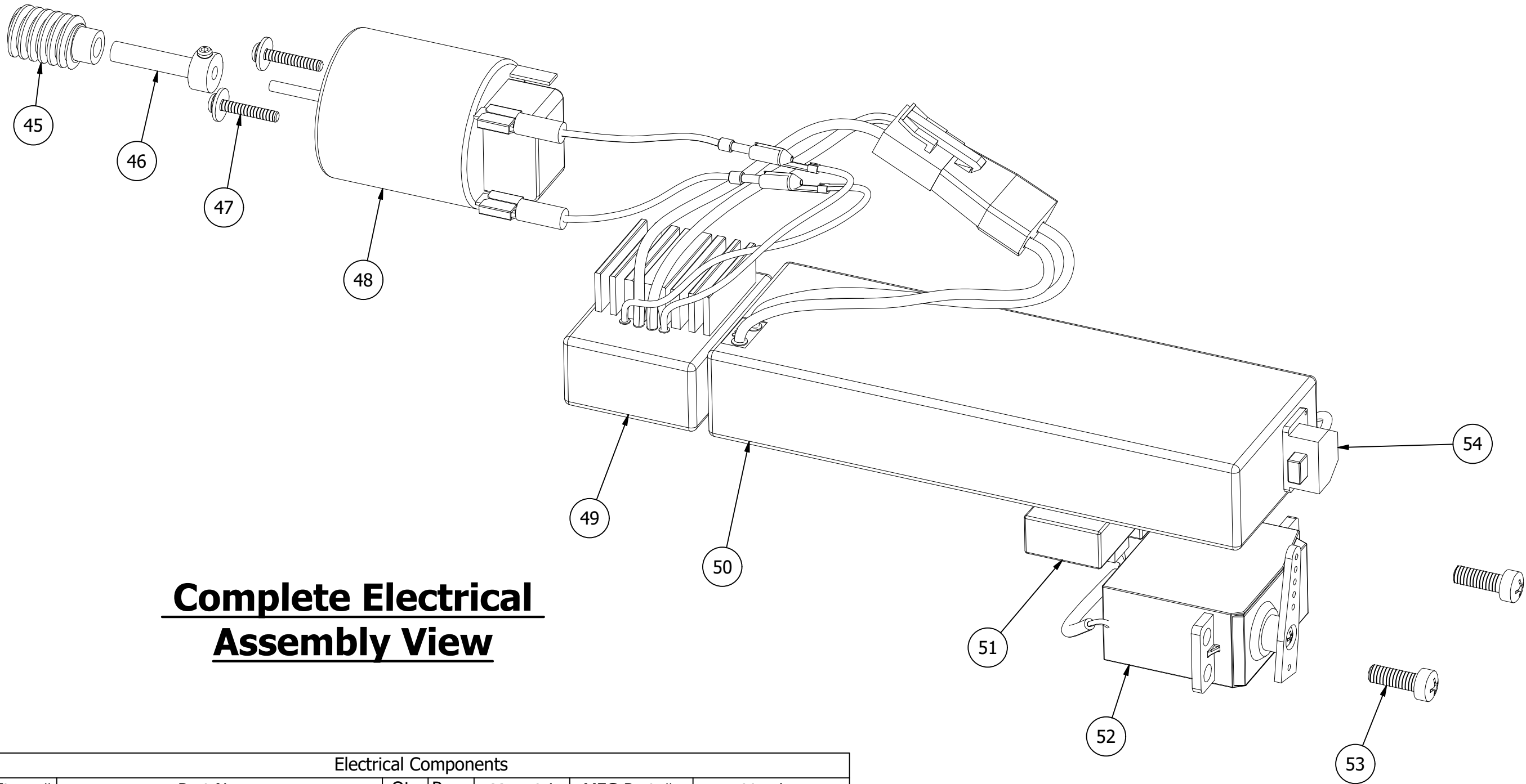
### 46 - Worm Adapter

3/8" Mild Steel Rod  
2X Scale - 1 Reqd

NOTE: WORM AND ADAPTER  
TO BE WELDED TOGETHER AT END

PROJECT		4-H RC Pulling Tractor	
DESCRIPTION		Drive Mount/Weight Bracket/Worm Drive Assembly Parts	
TOLERANCES			
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED			
DRAWINGS FOR:			
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DRAWN BY:		CHECKED BY:	
KBC			
DATE:		DATE:	
		9/11/2019	
DWG NO			
SHEET 10 OF 11			

## Complete Electrical Assembly View



Electrical Components

Item #	Part Name	Qty	Page	Material	MFG Part #	Vendor
45	Worm Drive	1	10	Steel	HLTH-1	Mrosupply.com
46	Worm Adapter	1	10	Mild Steel		
47	4-40x5/8" Phillips Pan Head w/ Washer	2		Stainless	92949A110	McMaster-Carr
48	55 Turn Motor	1		NA	AX24007	Axialracing.com
49	Motor Controller	1		NA	AX31144	Axialracing.com
50	5000mAh Battery	1		NA	15149	Venompower.com
51	Radio Reciver	1		NA	TTX300	Tacticrc.com
52	Steering Servo	1		NA	TSX35	Tacticrc.com
53	8-32x1/2" Phillips Pan Head	2		Stainless	91772A194	McMaster-Carr
54	On/Off Switch	1		NA	AX31144	Axialracing.com

**DUK BIOSYSTEMS AND AGRICULTURAL ENGINEERING**

PROJECT

4-H RC Pulling Tractor

DESCRIPTION

Electrical Components

TOLERANCES

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

DRAWINGS FOR:

- INFORMATION
- SUBMITTAL
- APPROVAL
- CONSTRUCTION
- OTHER

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DATE:

DATE:

9/11/2019

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SHEET 11 OF 11