

# ***SPEED UTV DESIGN PRESENTATION : 43***



**ROBBY GORDON, TODD ROMANO**

**DANIEL GRANGER**

**FOR PUBLIC RELEASE: 1/16/20**



**We have finalized the purchase of the Hastings building in Havasu.**



**City Council Voted unanimously in support of rezoning the building as a light vehicle dealership.**



**Having parts that can bolt on all four corners of a race car is hugely convenient**

- **Carry Fewer Spares**
- **Less development costs**
- **Quicker Mid-Race Repairs**



Dakar Rally 2019



**Here are some examples of what can happen if you don't design with part interchangeability in mind**



**Sébastien Loeb Broke Left Rear Lower Control Arm. Support Truck only had spare Right arms.**



By: [Haydn Cobb](#),

Co-author: [Maria Guidotti](#)

Jan 10, 2021, 5:15 PM

**Sebastien Loeb has switched focus to development running and supporting Bahrain Raid Xtreme teammate Nani Roma after his Dakar Rally was wrecked by an eight-hour stop with broken suspension.**

The nine-time World Rally champion dropped out of Dakar victory contention during Friday's Stage 6 when his Prodrive-run Bahrain Raid Xtreme BRX1 [stopped 97km into the stage with a broken suspension arm](#).

Knowing a relatively quick fix with a replacement part from a team assistance truck would limit the time lost to his rivals, Loeb's dwindling hopes were ended when the truck arrived with the incorrect replacement part – two right suspension arms instead of one right and one left.

It forced Loeb and co-driver Daniel Elena to wait a total of eight hours until the correct replacement part was delivered – with the actual repair only taking 20 minutes.

"A night in the dunes was not in the roadbook," Loeb joked later on Saturday having arrived at the bivouac at around 3am. "In a way it was a real pity, because finally Stage 6 was going smooth with an easy navigation and less rocks.

"I decided to attack but at 97km there were some bumps and in descending on one we hit the following one. There were not big bumps, but we broke the left triangle in two parts.



**Sébastien Loeb Broke Left Rear Lower Control Arm. Support Truck only had spare Right arms.**



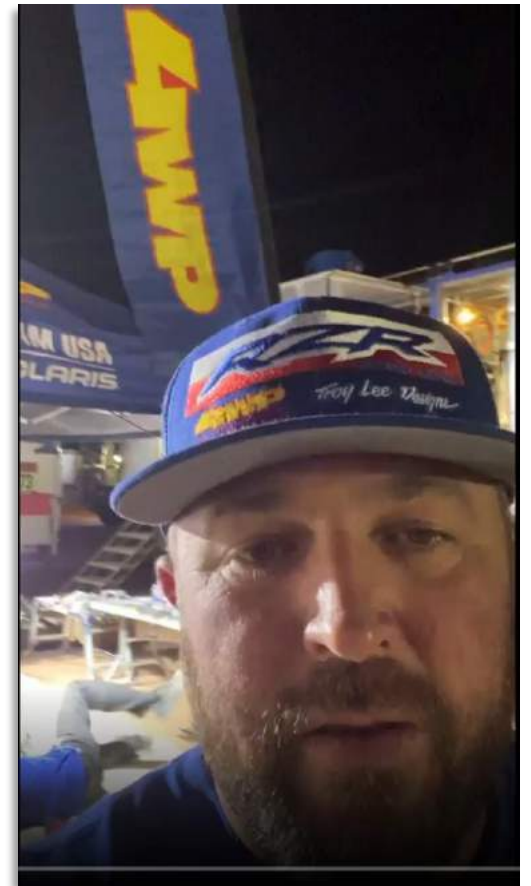
**Here are some examples of what can happen if you don't design with part interchangeability in mind**



**Team Polaris has broken all of their lower control arms and Radius Rods.**



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**Team Polaris has broken all of their lower control arms and Radius Rods.**



**Team Speed  
Completed the 2019  
Dakar Rally on the  
same suspension  
components as it  
Started**



**The long travel race suspension on the Speed CAT  
Racecars is the same material and construction  
as the Production Speed UTV Suspension**



**Here are some examples of what can happen if you don't design with part interchangeability in mind**



**Toby Price Suffered a Damaged tire during the first half of the marathon stage. New rules meant he could not replace it.**



**Polaris RzR still using staggered wheel and tire size.**



**RZR PRO XP Ultimate**

Starting at \$34,899 CA MSRP

Options **Matte Titanium Metallic**



Includes

- DYNAMIX Active Suspension 2.0
- RIDE COMMAND Technology integrated into a 7" Display
- Rockford Fosgate Premium Audio

[View More](#)

**Tires / Wheels**

Front Tires	30 x 10-14 MAXXIS Carnivore; Wheel Size 14x6
Rear Tires	30 x 10-14 MAXXIS Carnivore; Wheel Size 14x7
Wheels	Cast Aluminum

**Tires / Wheels**

Front Tires	29 x 9-14; Radial Tire
Rear Tires	29 x 11-14; Radial Tire
Wheels	Cast Aluminum

**XP Pro has different width rims front and rear and the XP 1000 has a narrower front tire.**



**Honda Talon comes with staggered tire sizes as well.**



TWO SEATS OR FOUR, THERE'S A TALON THAT'S RIGHT FOR YOU.



FRONT TIRES

28 x 9-15

REAR TIRES

28 x 11-15

**To be fair, tire size is of little concern when you primary roll cage measures 0.040"**



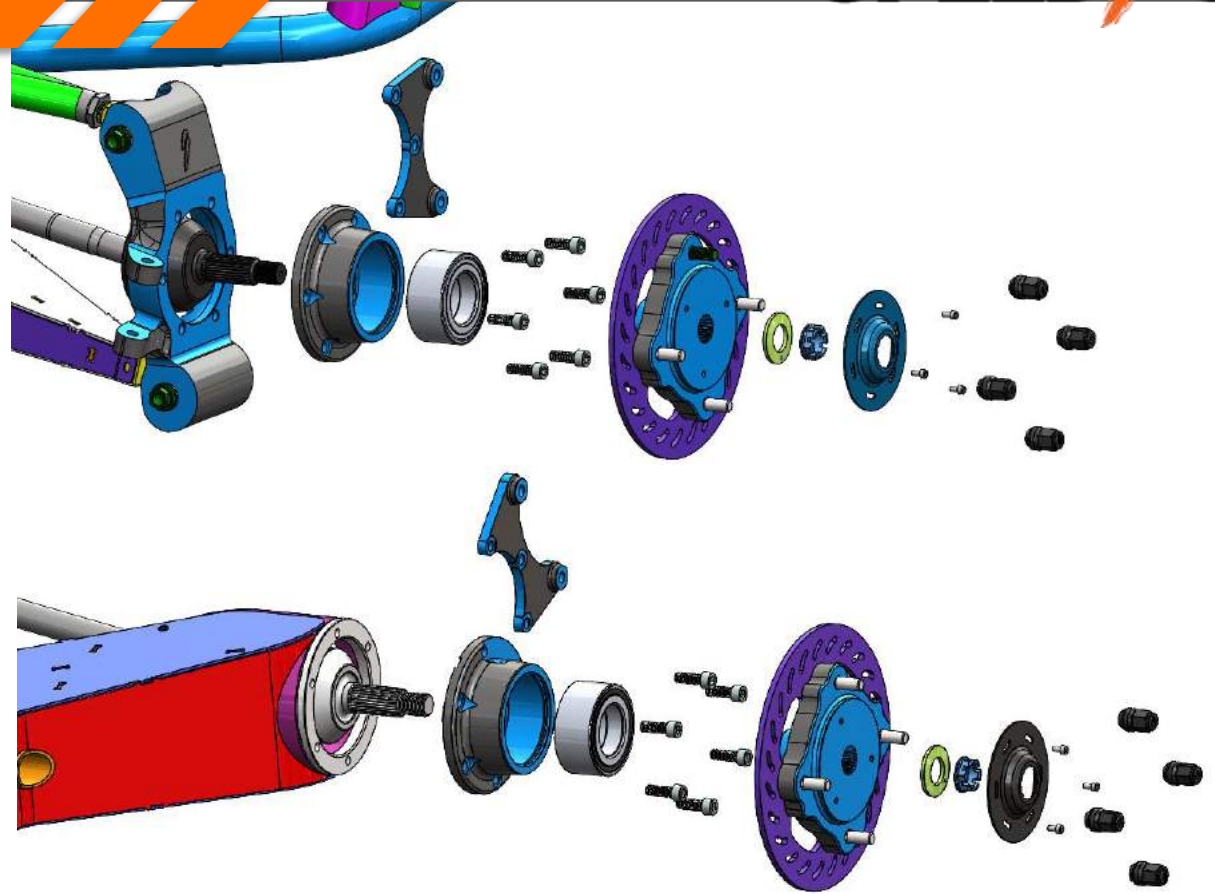
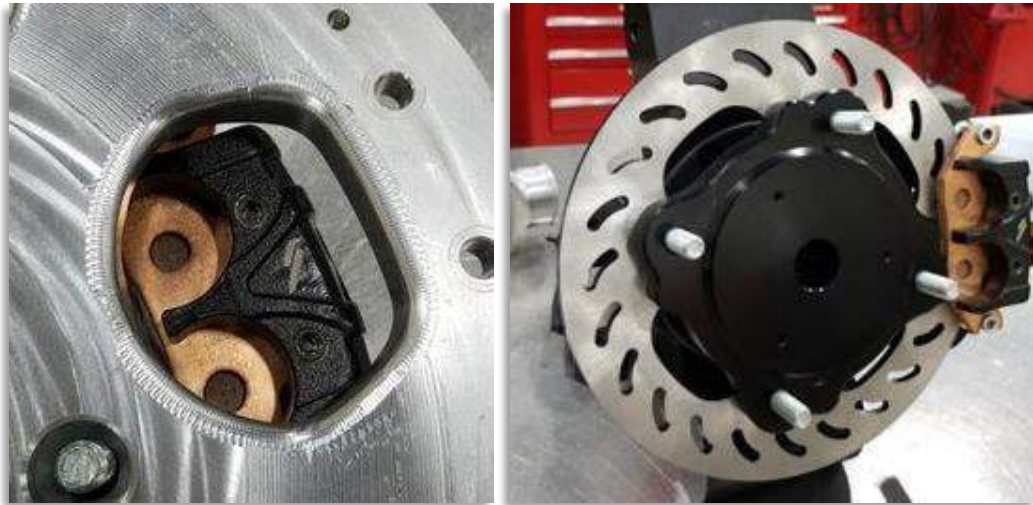
**These are the parts  
that are universal on  
the Speed UTV:  
Wheels & Tires**



**The Speed UTV uses the same Size Wheels and tires on all 4 corners, meaning only 1 size spare is needed.**

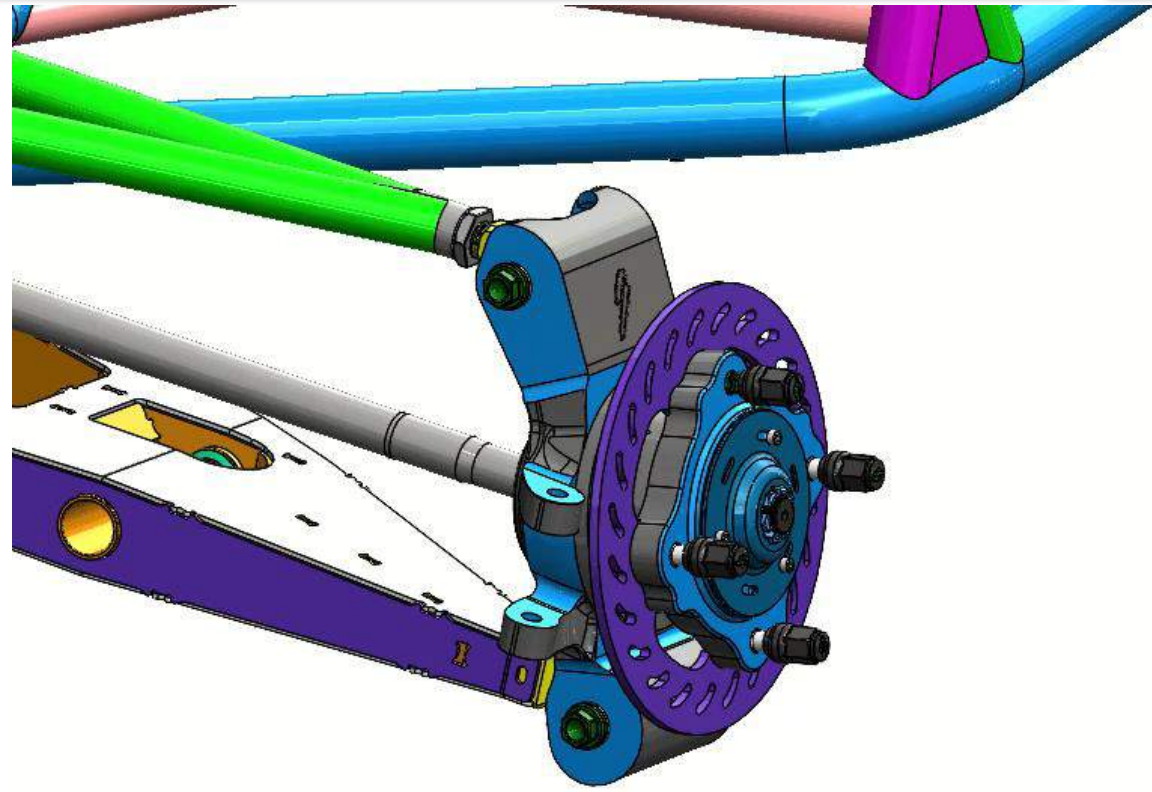


**These are the parts  
that are universal on  
the Speed UTV:  
Hubs & Brakes**

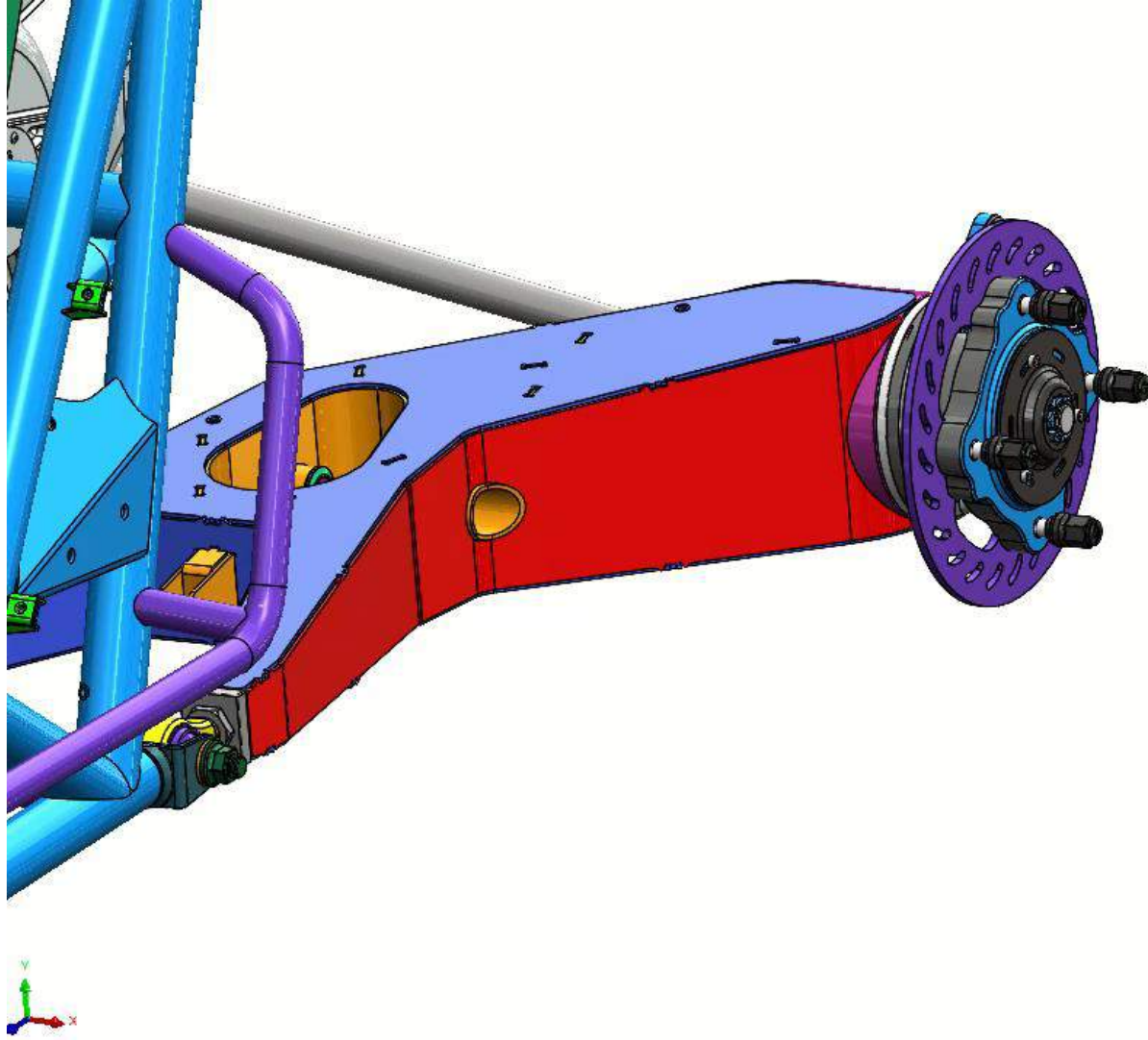


**Hubs and Wheel Bearings are Identical on all four corners. The brake calipers have different piston size but can still be bolted on any corner.**











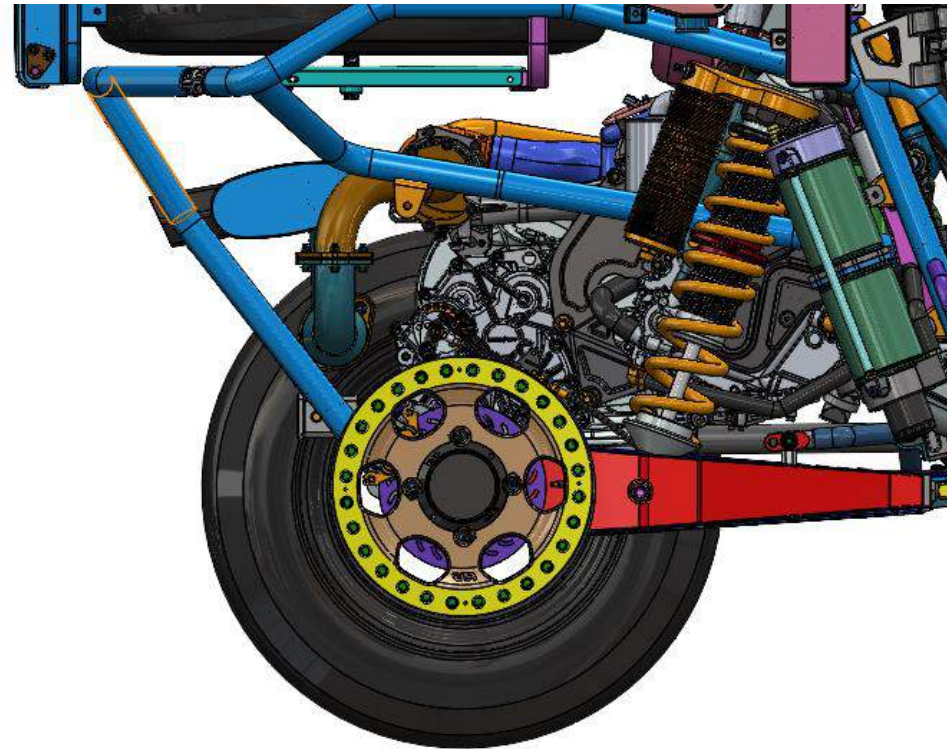
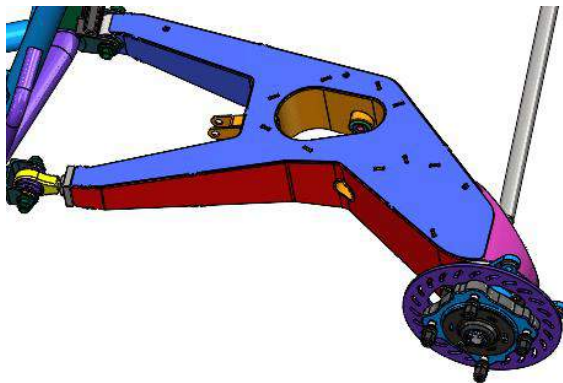
**These are the parts  
that are universal on  
the Speed UTV:  
Lower & Upper Control  
Arms**



**With the shock mounted on the centerline of  
the pivots the arm can be used on each side of  
the vehicle.**



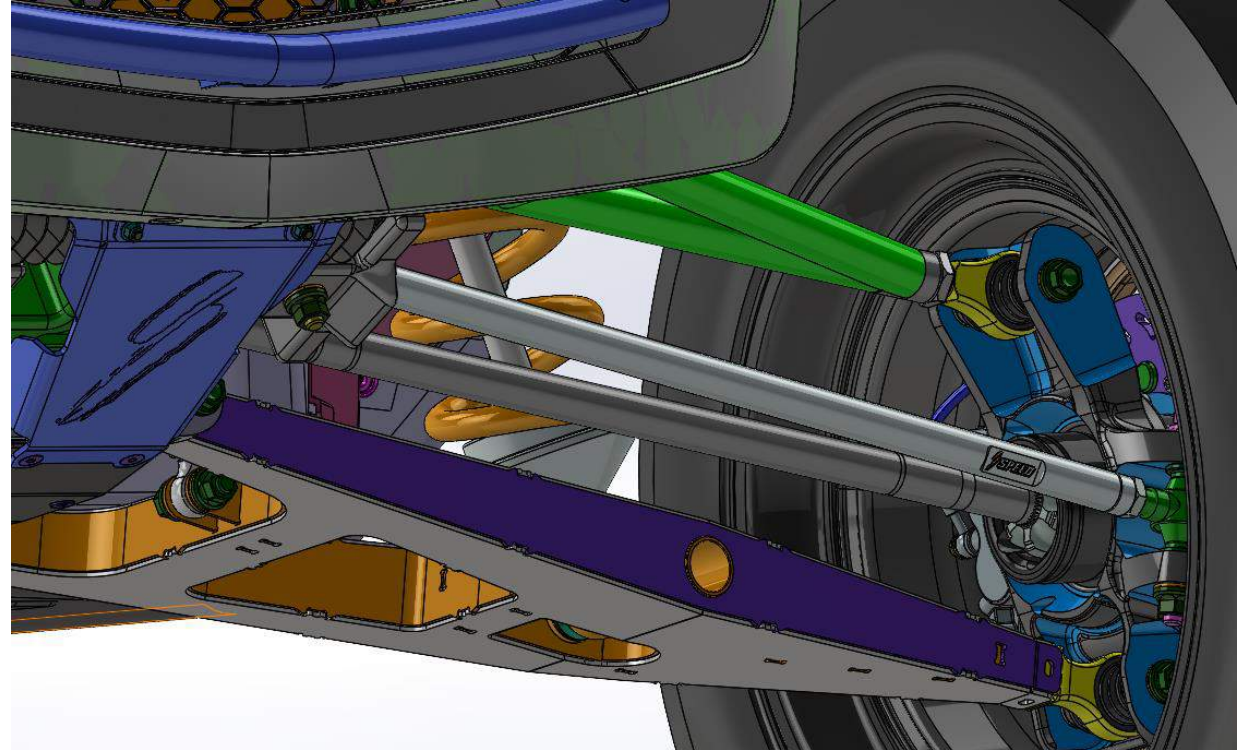
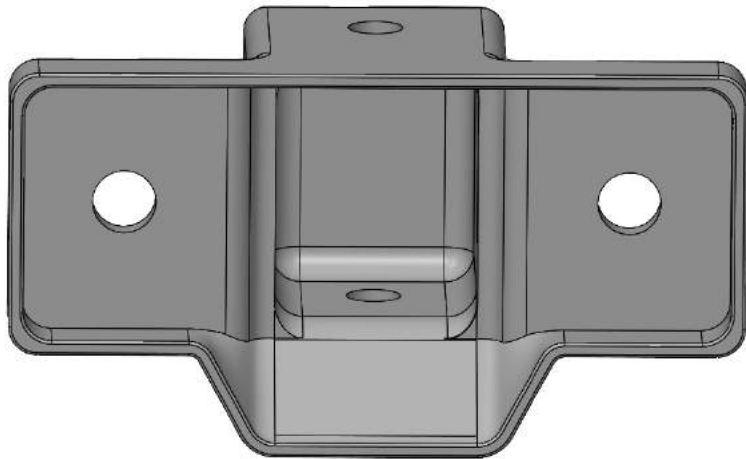
**These are the parts  
that are universal on  
the Speed UTV:  
Trailing Arms**



**With the shock mounted on the centerline of the pivots the arm can be used on each side of the vehicle.**



**These are the parts  
that are universal on  
the Speed UTV:  
Tie Rods & Mounting**



**A tie Rod is commonly reversible, but we have gone as far as making the entire rod end, and mounting assembly reversible. With Both LHT & RHT Rod End in each Rod**



## **RzR vs 4x4 Class**

**Footage of RzR Factory team being passed by a vehicle in the 4x4 car category**





## SpeedCAT vs 4x4 Class



**Onboard footage of Robby passing Fernanda Kanno @atokito in the 4x4 car category**



# SPEED UTV





**Forged Steel parts:  
Bulkhead top and  
back plate, door  
hinges, brake pedal,  
sway bar mount...**



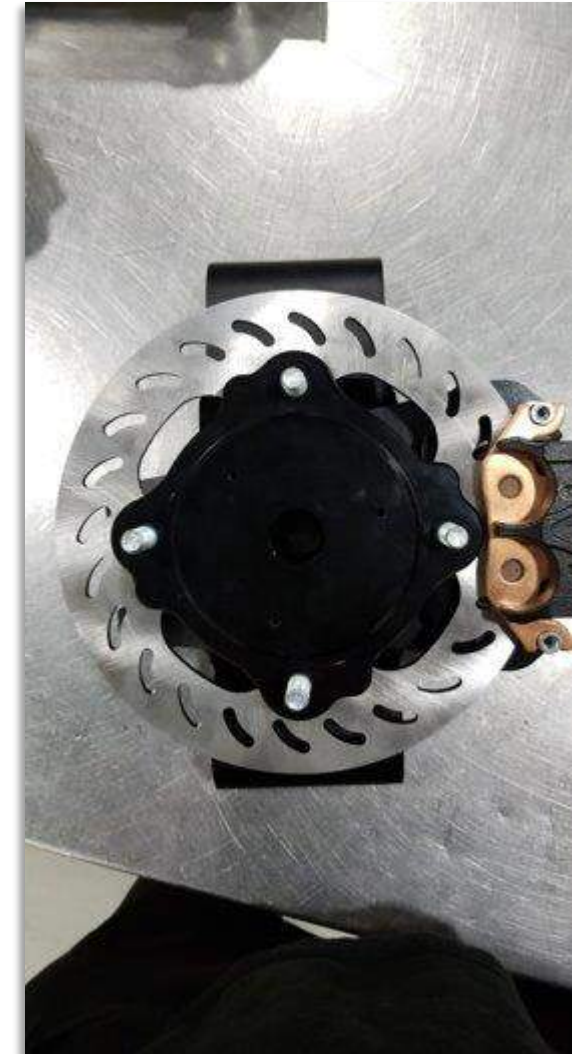
**Here are a few of the forged steel parts ready to  
be assembled**



## **Upright Assembly:**

- **Forged aluminum upright**
- **Universal hub and bearing**
- **Fully shouldered bolts**

**The hubs are lug-centric and hub-centric. With a bolt on axle nut retention plate that eliminates the need for cotter pins**





## **Upright Assembly:**

- **Forged aluminum upright**
- **Universal hub and bearing**
- **Fully shouldered bolts**

**Designed with optimal King Pin and Caster Angle. Minimized bump steer.**





## **Brake Calipers:**

- **Dual Piston**
- **Same Mounting points front and Rear**
- **Floating caliper**

**Great Stopping Power, Able to lock up all 4 on pavement**





## **Turbo:**

- **46mm Inducer**
- **Ceramic Ball bearings**
- **Water Cooled**
- **Oil Cooled**



**Reverse Rotation Helps Packaging**



## **Piston:**

- **Forged Aluminum**
- **Hard coated piston top**
- **Thick Piston Rings**



**Piston Speeds can exceed 20m/s**



## Alternator Bracket:

- Cast Aluminum

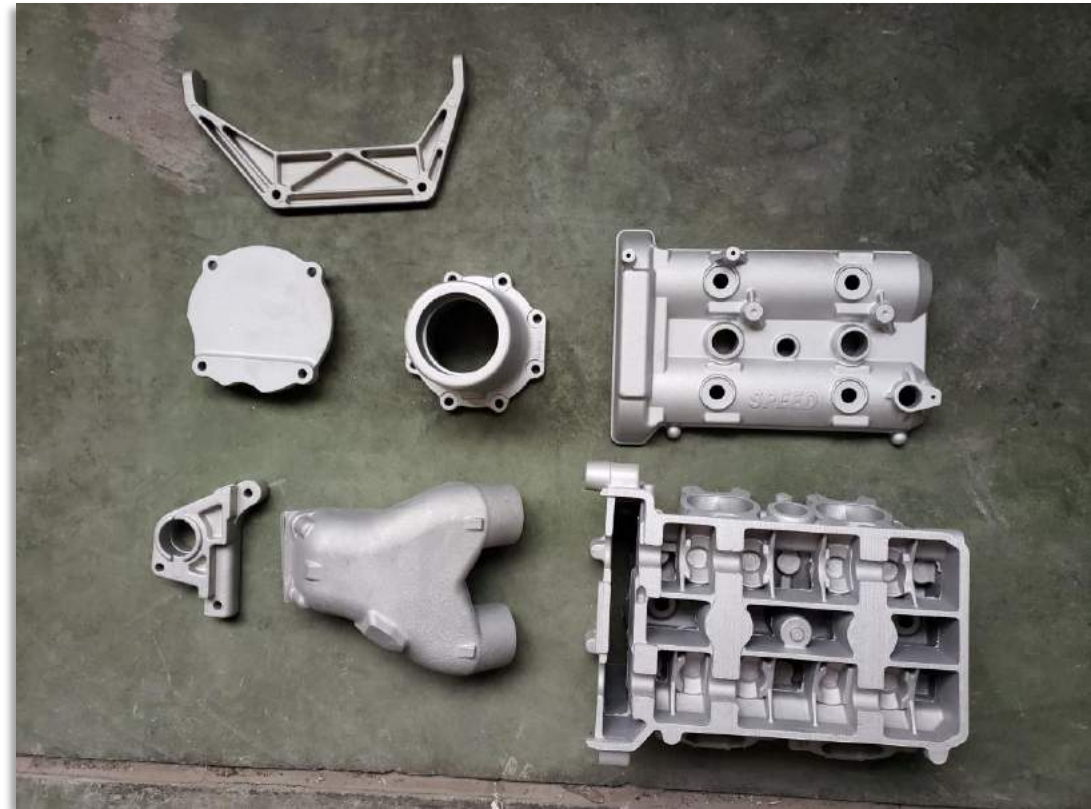


**Pocketed and ribbed for light weight and stiffness**



## Cast Aluminum:

- **Cylinder Head**
- **Intake manifold**
- **Valve cover**
- **Motor Mount**
- **Trans input housing**



**Pocketed and ribbed for light weight and stiffness**



## Steering Wheel:

- **Square Profile for better dash view**
- **Comfortable Grip location**
- **Flat Bottom for increased leg clearance**



**Note: Leather color and stitching will be Speed Orange**



**Call in with your  
questions:**

**704-949-1255**



**Lucky Caller gets a guided Speed UTV tour with  
Robby in Arizona**