

Transporter requirements

- to transport an antenna from the assembly building to the pad and from pad to pad at Haystack and Mauna Kea.

Transporter Design Concept Choices

- rail system environmentally unacceptable and too costly
- U-shape vehicle allows low profile antenna with no lift mechanism on the antenna
- U-shape requires wider track but wider track is needed for stability
- hydraulic wheel motors provide power at each wheel without complex transmissions
- three point suspension with two-wheel bogey at each point ensures equal tire loading for uneven terrain but still provides excellent rollover protection
- combination vehicle/antenna lift simplifies hydraulics
- chain antenna suspension allows antenna to be easily located above the pins
- antenna locking mechanism combined with antenna positioning mechanism to simplify hydraulics

Transporter Specifications

- Size

Length	26 feet max
Width	16 feet max
Height	15 feet max
Track	14'-2"
Wheelbase	13'-11"
Tires	R25x17
- Weight

Payload	66,000 lbs max.
Vehicle	44,000 lbs max.
GVW	110,000 lbs max.
- Max drawbar pull: 36,000 lbs.
- Maximum speed: 5 mph
- Max climbing speed on loose gravel: 5 mph
- Max climbing speed in mud: 2.3 mph
- Min turning radius: 28 feet

- Allowable road conditions

Side slope	10%
Twist in 30'	5%
Max obstruction height	10 inches
Maximum slope	15%

- Max speed without tipover for 10%/15% side/down slope away from turn, minimum turning radius, flat tires away from turn, and lift cylinders away from turn retracted.

6.6 mph

- Max speed without uneven wheel load for 10%/15% side/down slope away from turn and minimum turning radius.

9.5 mph

- Travel time for reconfiguration of array @4 mph avg (2 trips from hangar to center and 12 trips from center to outer pads)

36 min.