

Stand Transfer Vehicle (STV™)



Designed for most doubles and triples mast applications, the STV integrates into existing fingerboard footprints with a minimal weight increase on the fingerboard. The STV utilizes a compact scissor-arm system to fit between the setback, and reaches well center and all the slots in the fingerboard. Our Stand Transfer Vehicle (STV) is an innovative technology upgrade that increases safety by removing the derrickman from the mast, and facilitates more consistent tripping operations by safely automating the tubular racking process.

Key features of the Stand Transfer Vehicle

- **Patented Stand Capture Head** – facilitates handover of stand from primary arm of STV to hydraulic elevator or fingerboard slots. Primary Electric-over-Hydraulic controls with dual high-resolution camera feedback provide safe, fast, and reliable handling of 3.5" to 10" stands of tubing, drill pipe, and drill collars.
- **Mechanical Alignment Arm** – The innovative mechanical alignment system precisely and repeatedly positions the STV at the finger slots for ease of operation and simplified control. It features a zigzag weldment, and works with the alignment link on the STV, ensuring the STV is always aligned with the fingers.
- **Diving board** – features a breakaway function that will allow it to pivot up or down if contacted by the top drive elevators. Once pressure is released, the diving board freezes in its current position using a shear pin system clamp to protect the rest of the structure from damage. Then it can be reset and the shear pins can be replaced to easily return to full operational capacity.
- **Intuitive Control System** – comfortable, ergonomic controls that feature a dual CCTV camera system to ensure operator visibility. STV arm-positioned outputs are available.
- **Transport Skid** – protects the STV and manual control station during transport and increases efficiency in the rig-up and rig-down process.
- **Manual, hydraulic controls** – are available for maintenance requirements.



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Added Value and Safety

Within the safety of the driller's cabin, the derrickman conducts pipe handling operations using an intuitive, ergonomic control system while working side-by-side with the driller to learn valuable skills and techniques.

This ultimately improves both the value and safety of your rig:

- Increased rig automation, improving safety by removing the derrickman from the mast while streamlining pipehandling operations.
- Better adherence to drilling schedules, reducing potential downtime and ensuring consistent tripping speeds.



The STV is suitable for the majority of modern 1,000-3,000 horsepower land rig masts.

Hydraulic Elevators

Hydraulic elevators are required for use of the STV. We are the OEM provider of the **BX 4-35 Hydraulic Elevator**, the ideal tool for seamless integration and uninterrupted operations. It features the rotary actuator that can be tilted to pick up pipe from the V-door, eliminating the need for single joint elevators. The actuators are speed adjustable and swing out for quick and easy link removal for switching/repositioning the elevator.

FEATURES	BENEFITS
Derrick-person-to-driller	<ul style="list-style-type: none"> • Safety • Climbing • Communication • Flat Time Reduction • Interactive Training
Efficient Operations	<ul style="list-style-type: none"> • Consistency • HWDP and BHA Handling • Controlled Environment
Ergonomic Controls	<ul style="list-style-type: none"> • Training • Multiple Discipline Operators
Installed Weight and Mast Integration	<ul style="list-style-type: none"> • Upgrade Friendly • Multiple Installation Options
Simple and Robust Design	<ul style="list-style-type: none"> • Uptime • Troubleshooting
Full Prototype Testing Program	<ul style="list-style-type: none"> • Minimize Product Launch Pains



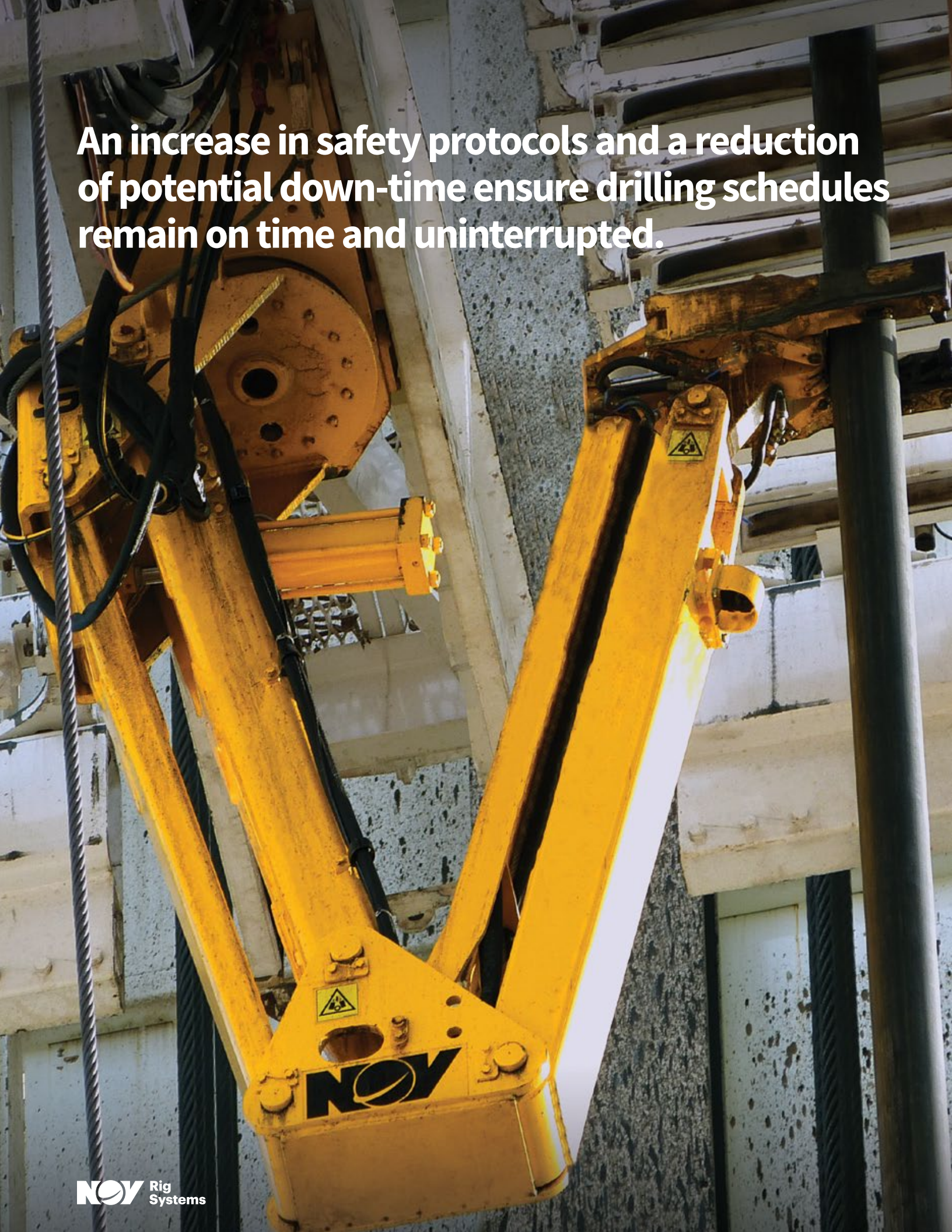
Specifications - STV

General	Electrical Requirements Hydraulic Requirements Hydraulic Lines	120 VAC 15 gpm, 2,500 psi Supply: 0.5"-8 JIC fitting Return: 0.5"-8 JIC fitting Drain: 0.38"-8 JIC fitting
Typical Weight	Diving Board Variable, Ideal Rig Model STV	9,500 lbs 2,500 lbs
Capacity	Maximum Extension Force Maximum Retraction Force Maximum Radial Force at Extension Maximum Slew Moment Tubular Capacities	1,800 lbs retracted; 2,700 lbs extended 1,800 lbs extended; 1,200 lbs 1,500 lbs 30,000 in.-lbs = 2,500 ft.-lbs 3.5" Drill Pipe to 10" Collars
Operating Speeds	Extension Speed Retraction Speed Slew Time Carriage Travel	up to 0.67 ft./sec. up to 0.67 ft./sec. 90° in 3.2 sec. up to 0.75 ft./sec.

Specifications are subject to change without notice.



An increase in safety protocols and a reduction of potential down-time ensure drilling schedules remain on time and uninterrupted.



Field Service

Our growing staff of proven field service personnel is available 24/7 to support all NOV products. Knowledgeable field service technicians can quickly deploy to your operating site to resolve your equipment issues, whether structural, mechanical, electrical or software-related. Our FAST solution service trucks are pre-stocked with an extensive list of NOV's top drive, iron roughneck, BOP, EDS, and Amphion replacement parts, filters, consumables and tools to get your NOV equipment running at OEM specifications. Expert on-call technicians are ready to provide FAST, on-site service and repair.



Training

Field technicians train extensively on NOV Rig Systems product lines including competency training and evaluations through our NOV technical colleges and training facilities to ensure the highest quality service and support for your equipment repairs on-site.

Repair

Our highly skilled shop technicians overhaul, repair, rebuild, and re-certify a wide range of NOV equipment to the NOV Quality Assurance and OEM specifications — using only OEM parts. Our worldwide network of repair centers provides unrivaled quality customer service, on-time delivery and unmatched technical integrity. In addition, equipment exchange programs are available at various facilities. Through the Used Equipment Refurbishment Program, we provide viable, short turnaround solutions to immediate capital equipment needs, complete with data books and certificates of conformance as required.

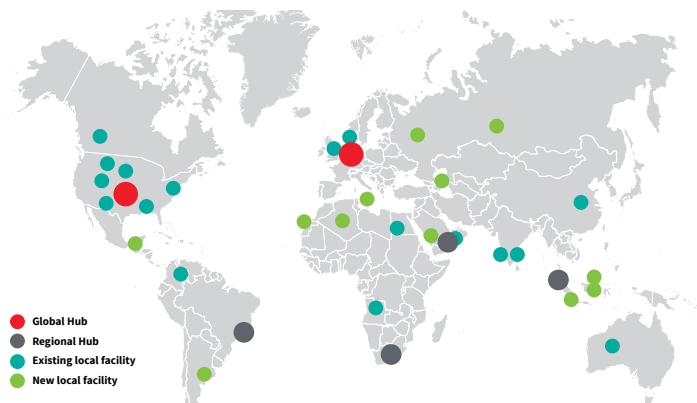
Technical Support

One phone call to one of our technical support centers initiates a technical support team of multi-skilled backgrounds to troubleshoot and resolve your worldwide equipment needs, 24/7/365. Our team of highly skilled and experienced technical support members work together with our global pool of qualified field service technicians and subject matter experts to keep your rigs operating. The technical support team utilizes our web-based application "Tracker" to record, manage, and resolve issues.

Field Engineering

Our field engineering groups offer the unique service of providing one-off, rig-specific equipment designs, modifications and solutions to your rig-specific issues.

For 24/7 Support Services: [+1 281 569 3050](tel:+12815693050)



Comprehensive Aftermarket Products and Services

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