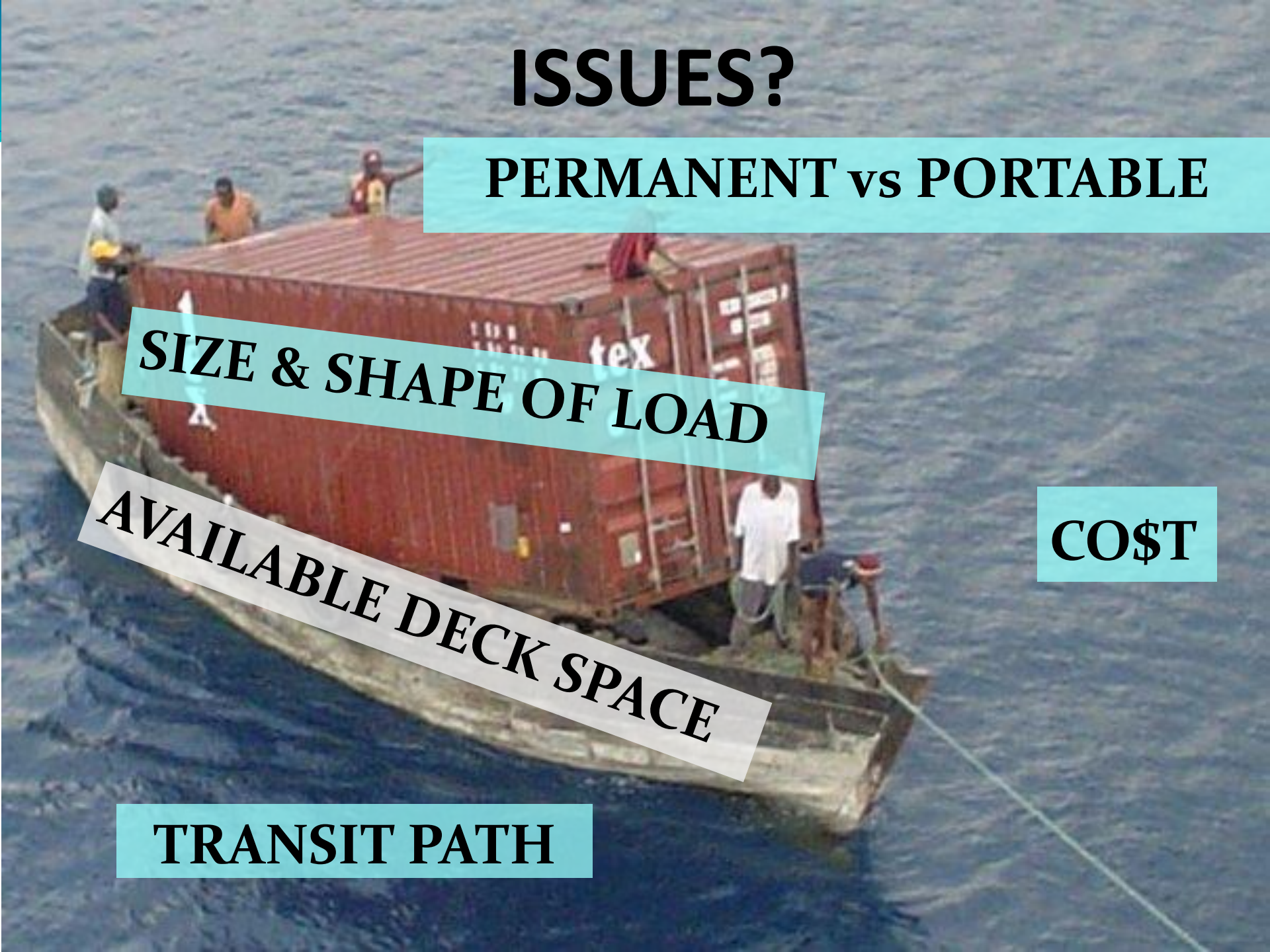
FISH OUT OF WATER

Issues and Options in Moving Heavy Vehicles Around Deck

Jeff Koch – University of Hawaii


ISSUES?
PERMANENT vs PORTABLE
SIZE & SHAPE OF LOAD
AVAILABLE DECK SPACE
CO$T
TRANSIT PATH

ISSUES

ISSUES

DURABILITY AND MAINTENANCE

ISSUES

ISSUES

POSITION CONTROL

OPTION: TRACK SYSTEMS

GENERALLY HIGHER COST

HIGHER LEVEL OF CONTROL

FAVOR LINEAR PATH

INSTALLATION CAN BE CHALLENGING

TRACK SYSTEMS – ROLLERS VS GLIDES

ROLL RESISTANCE VS MOTION ARREST

ROLLERS – WHEELS AND/OR BEARINGS

- LOW FRICTION – EASIER TO MOVE
- SMALLER CONTACT SURFACE – HIGH PSI
- FAVORS COMPLEX PATHS
- HIGHER MAINTENANCE – DAMAGE PRONE

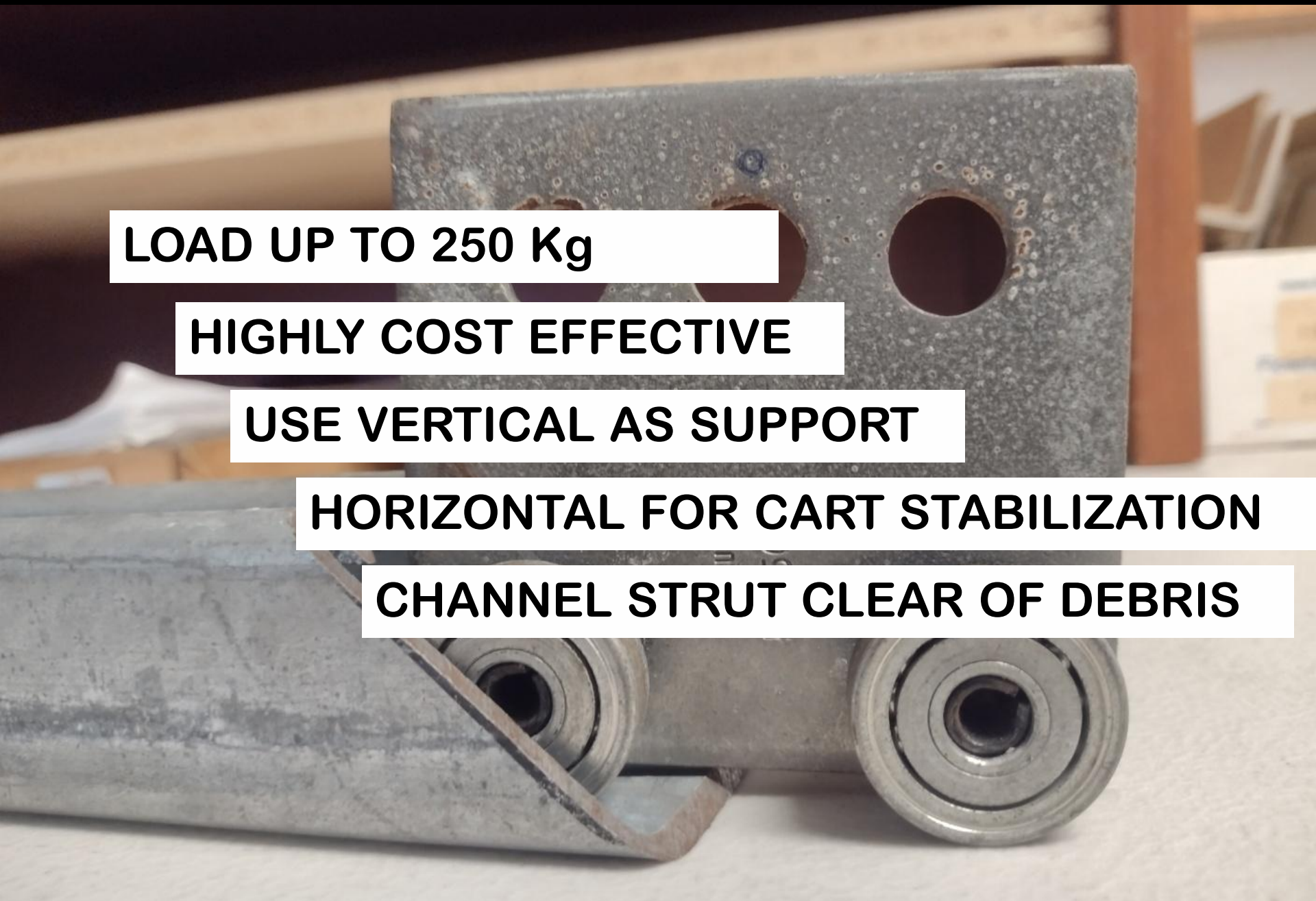
GLIDES – BAR STOCK AND SADDLE

- LARGER CONTACT AREA
- HIGHER FRICTION = HARDER TO MOVE
- LOWER MAINTENANCE

HEAVY DUTY TRACK


LIGHT DUTY ROLLER TRACK
NOT RECOMMENDED FOR VESSELS PRONE TO ROLLING
V-GROOVE AND ANGLE STOCK

WHEEL CAPTURE (CHANNEL STRUT)

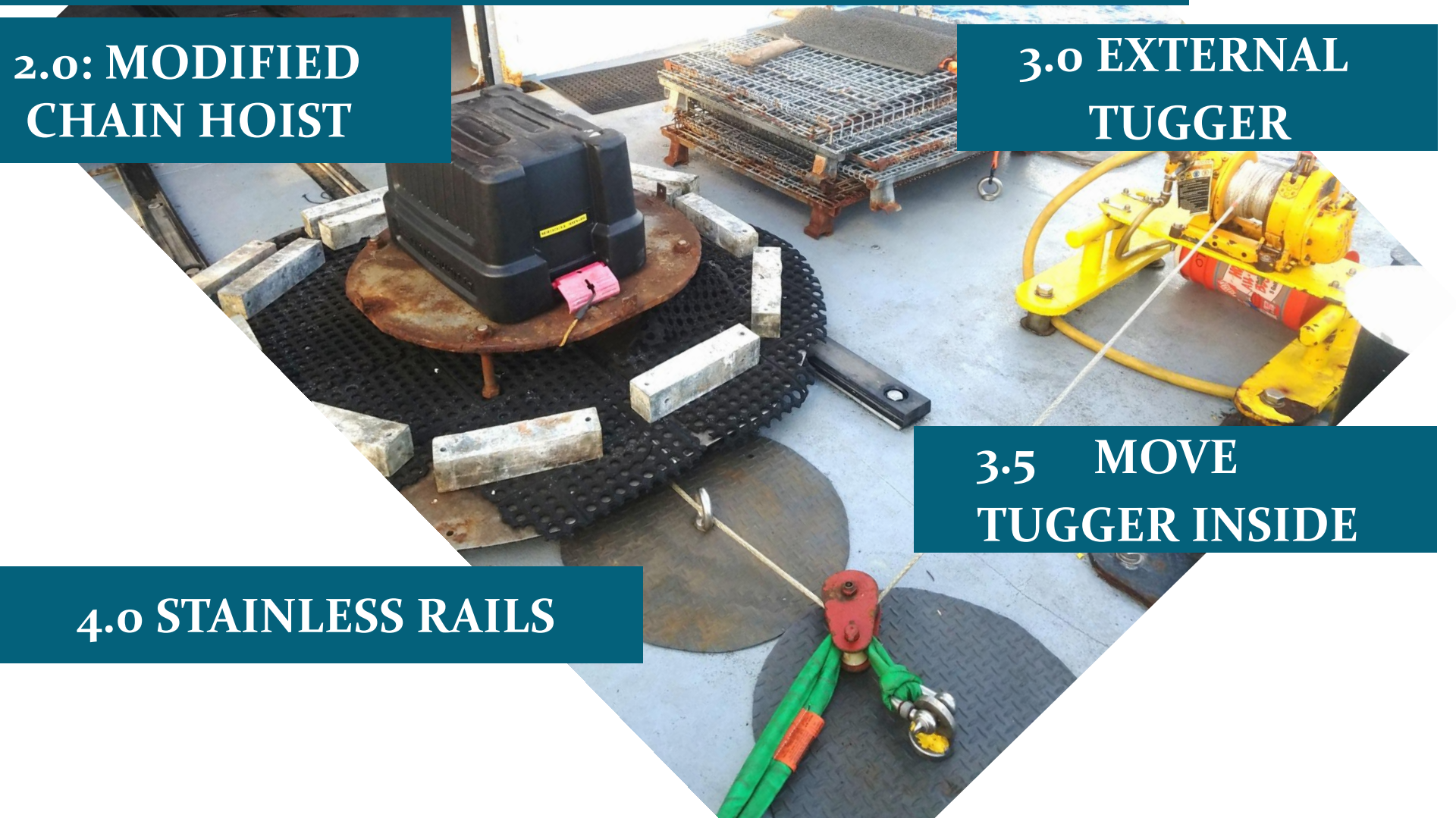



HEAVY DUTY GLIDES - KOK
SIMPLE AND COST EFFECTIVE
IDEAL FOR VERY HIGH LOADS (14 TON +)
CHAIN AND HYDRAULIC DRIVE
PERMANENT IMPEDIMENT TO OTHER OPS

MEDIUM DUTY GLIDE – KILO MOANA

MacGyver – GLIDE AND CART SYSTEM

1.0: DELRIN RAILS, WIRE ROPE WINCH & PULLEY



2.0: MODIFIED CHAIN HOIST

3.0 EXTERNAL TUGGER

3.5 MOVE TUGGER INSIDE

4.0 STAINLESS RAILS

TRACKLESS SYSTEMS

MOBILIZATION IS USUALLY A LOT EASIER

PREFERABLE FOR COMPLEX PATHS

DECK IS (MOSTLY) FREE OF OBSTRUCTIONS

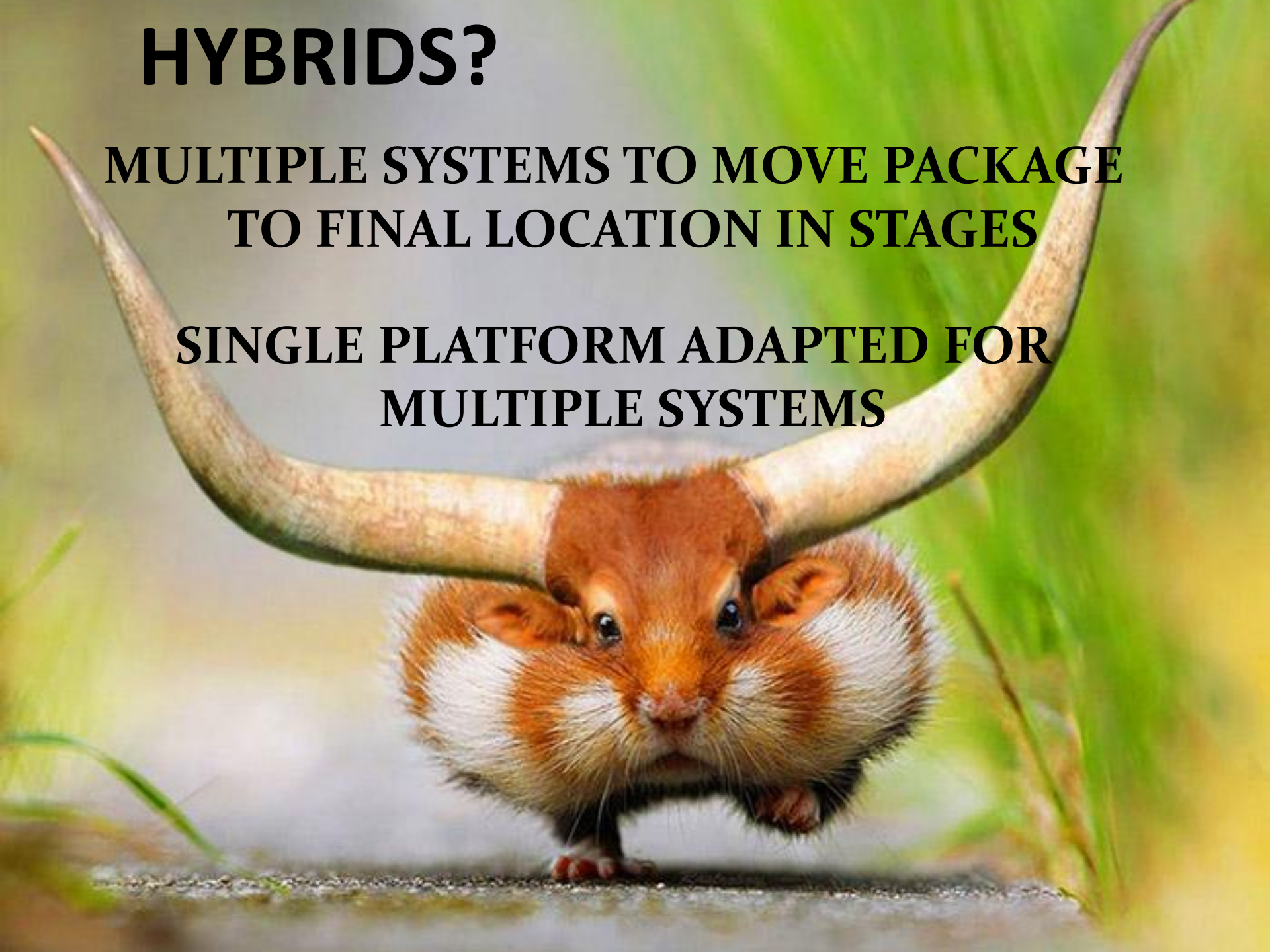
CONTROL CAN BE AN ISSUE

- GENERALLY LESS PRECISE
- USUALLY ON WHEELS (HIGHER MAINTENANCE)
- FAVOR CALMER CONDITIONS
- ADDITIONAL SECURING IS REQUIRED


TRACKLESS
Gold Standard
30 DEGREE SLOPE
SELF PROPELLED
BELLY PACK CONTROLLED
CO$$$$$$$T?
SUB OPS –
OceanXplorer

TRACKLESS – BARGAIN BASEMENT

HYBRIDS?



MULTIPLE SYSTEMS TO MOVE PACKAGE TO FINAL LOCATION IN STAGES

SINGLE PLATFORM ADAPTED FOR MULTIPLE SYSTEMS

TRACKLESS CART

COMMERCIALLY AVAILABLE INDUSTRIAL SUPPLY

JACK SCREW BRAKE

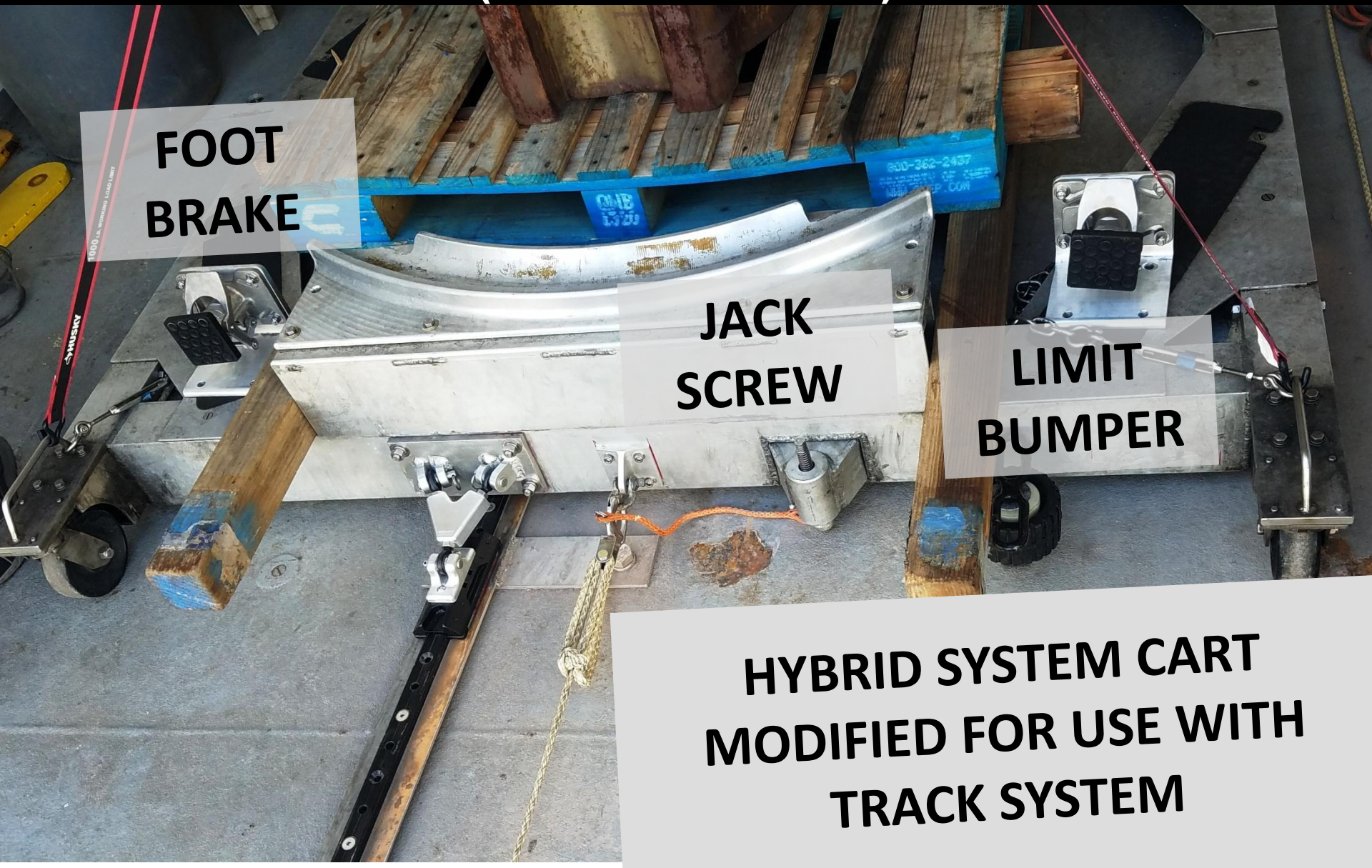
ALUMINUM BOX STOCK FITS FORK POCKET

LIMIT BUMPERS

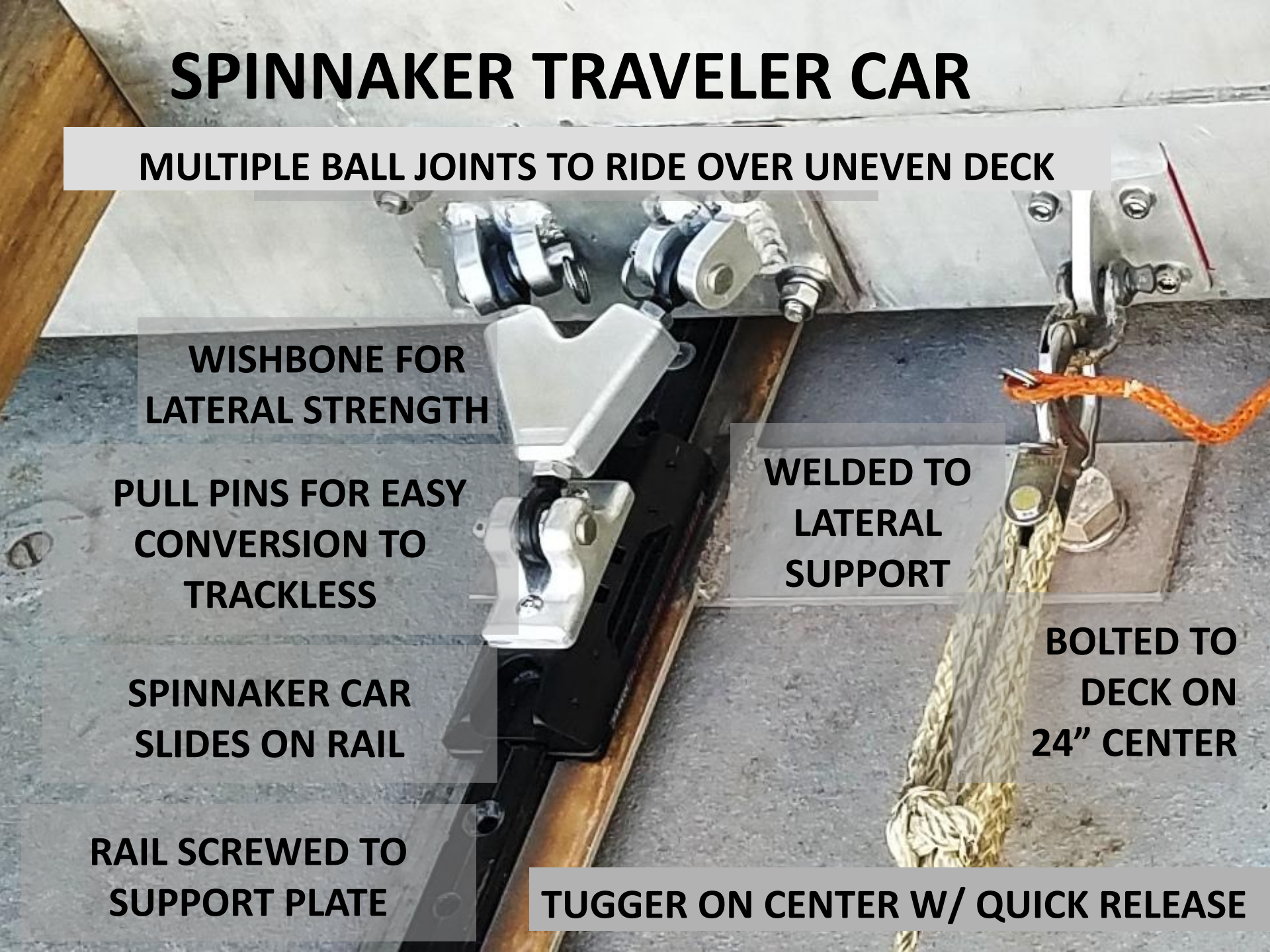
BOAT TRAILER ROLLERS WITH BOLT AND CHAIN LINKS

TRACK SYSTEM CART

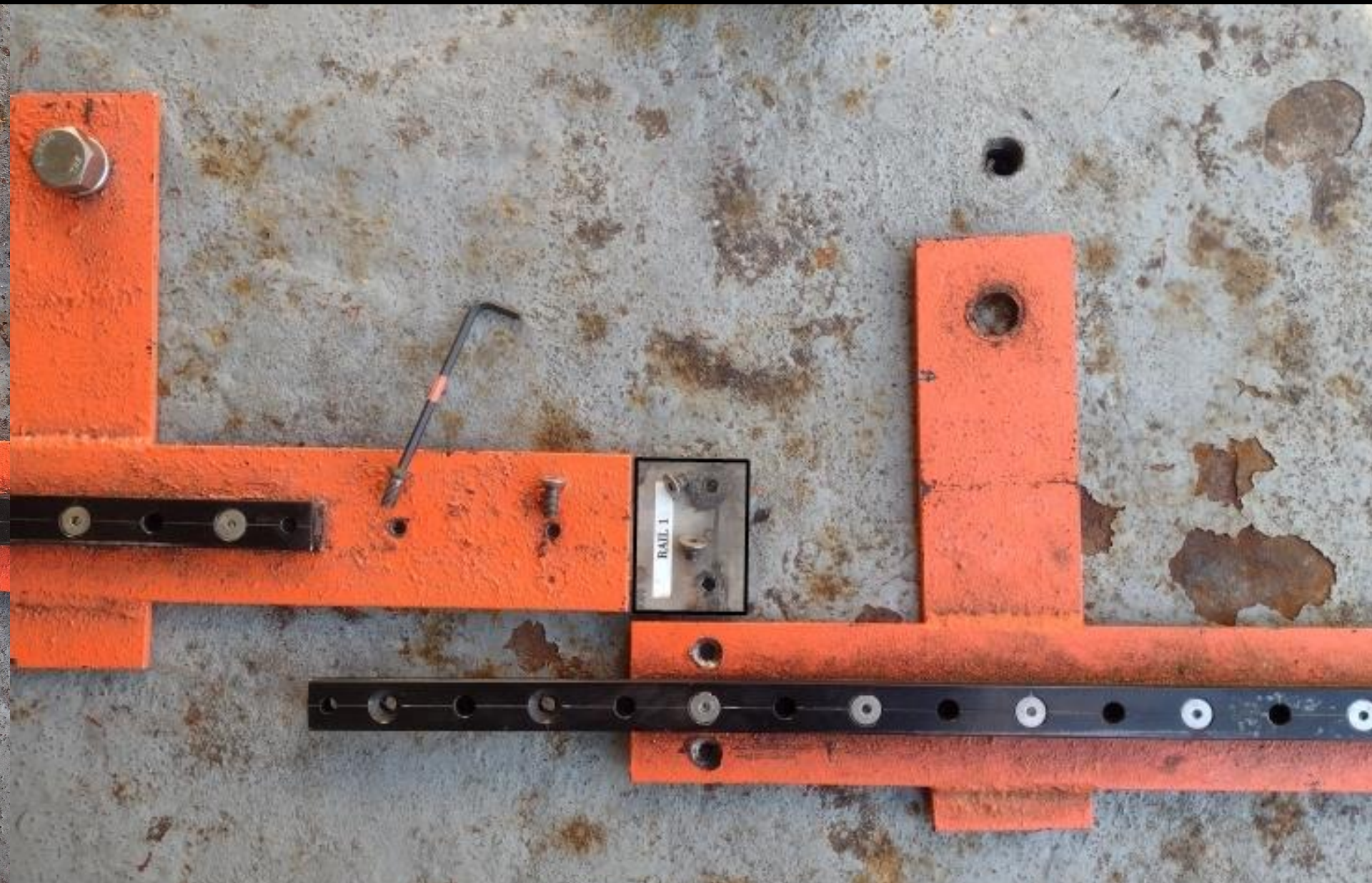
(EARLY LOAD TEST)



SPINNAKER TRAVELER CAR

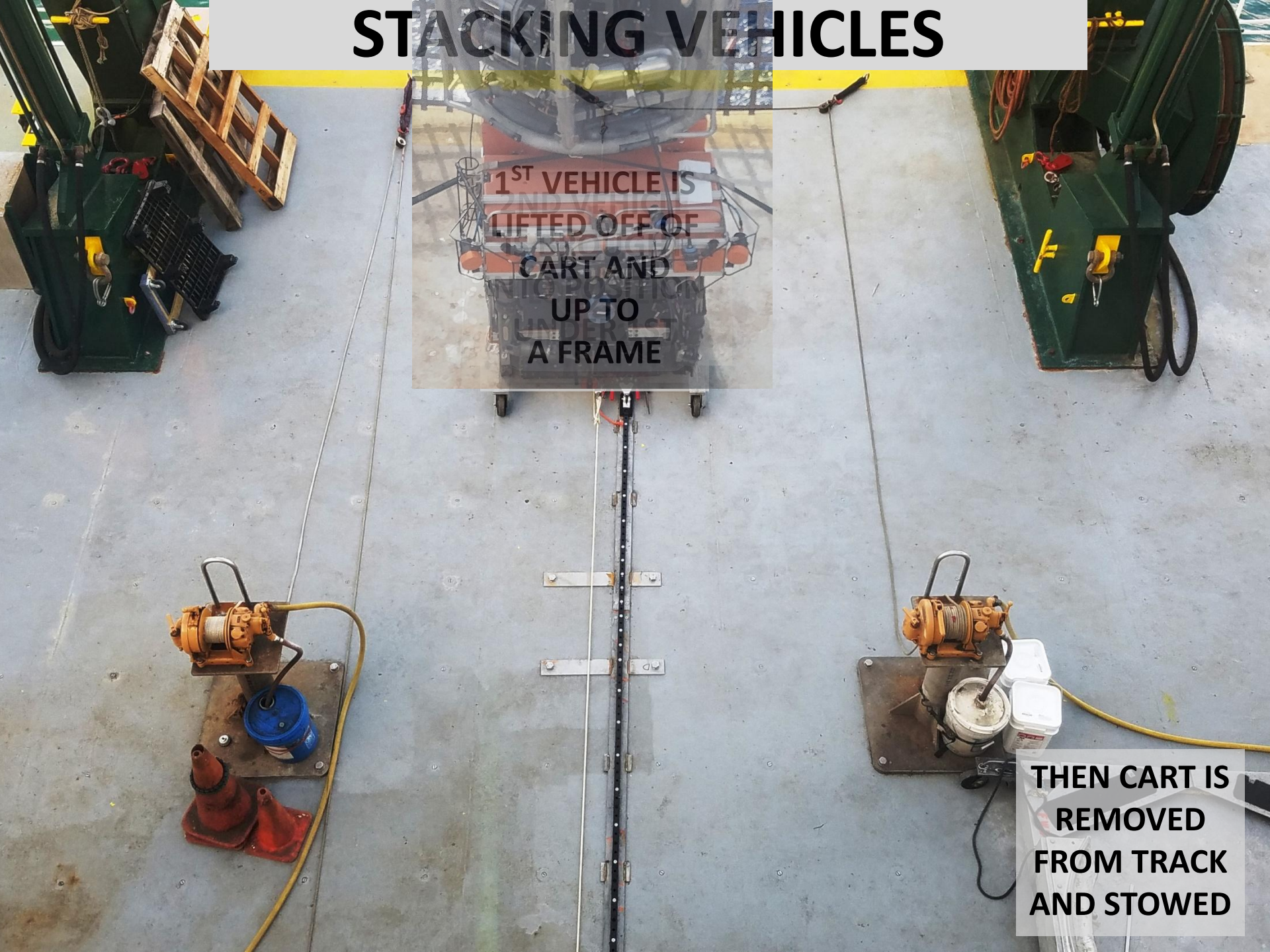


JOINING TRACK SECTIONS



PULLING IT ALL TOGETHER

STACKING VEHICLES



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- Allison Heater - WHOI


OPEN
SPACE