BARNHART CRANE & RIGGING CO.

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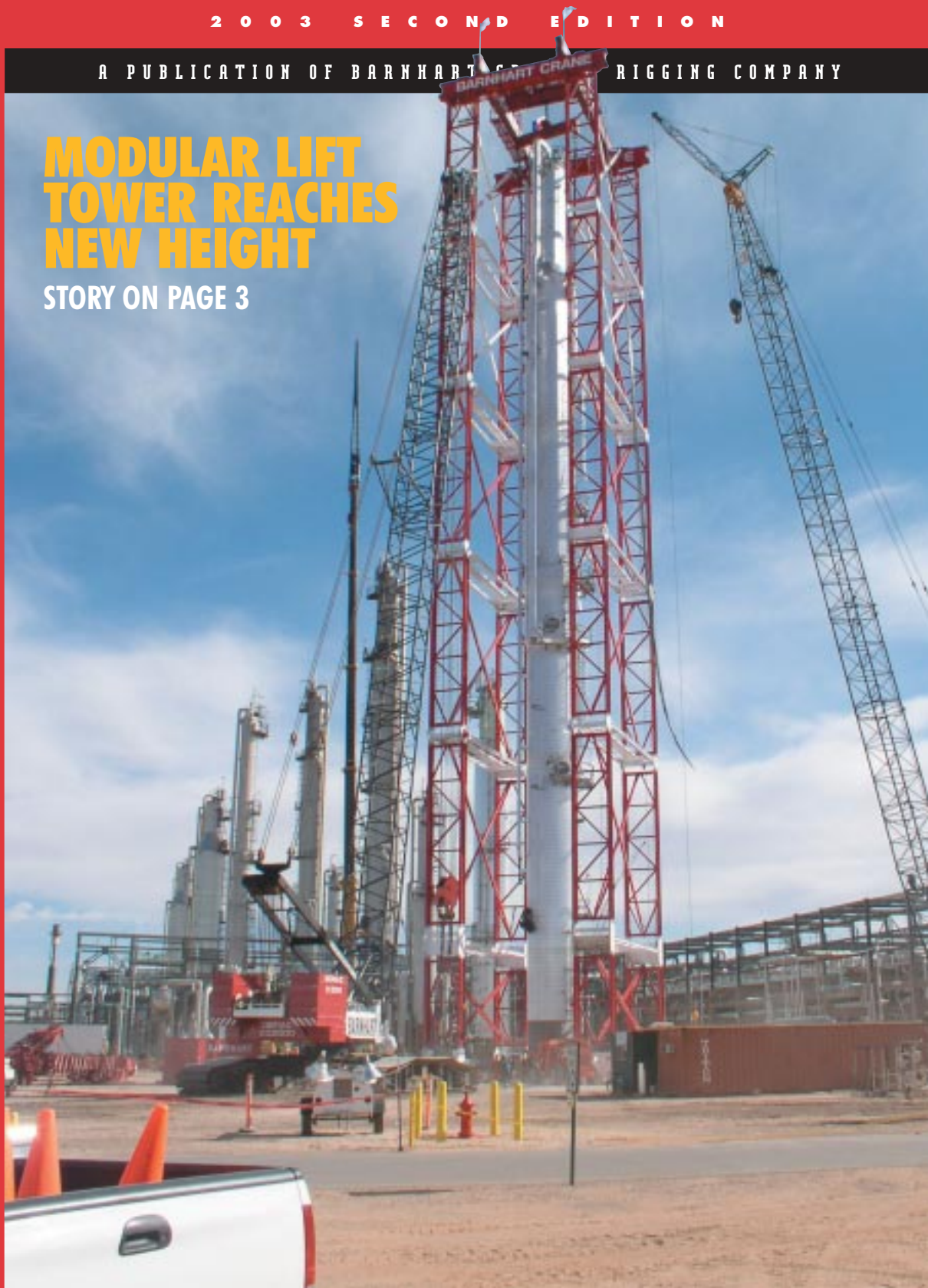
# THE LIFTING LETTER


2003 SECOND EDITION

A PUBLICATION OF BARNHART CRANE & RIGGING COMPANY


## MODULAR LIFT TOWER REACHES NEW HEIGHT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# BARGE TRANS-LOAD WITH ROLL OFF OPERATIONS

**This spring, Barnhart Crane & Rigging completed a barge trans-load at Barnhart's Heavy Lift Terminal in Memphis and barge roll off operations in Iowa for two aluminum stretcher heads weighing 285 tons each. Additionally, Barnhart provided barge and tow services for this project.**

**The trans-load from lash to deck barge was performed utilizing Ichabod, the 1250 ton derrick crane located on the Mississippi River, which lifted the stretcher heads out of the lash barge and positioned them on stands and beams on the deck barge. Barnhart employed a self-propelled hydraulic platform trailer to lift each head from the stands and roll them off in Iowa. This approach eliminated the need for what would be an expensive heavy lift crane option at the project site. Both heads were transported safely and on time to the aluminum manufacturing facility in Iowa.**

# GO SLOW AND KEEP IT LEVEL!

Barnhart was contacted by the National High Magnetic Field Laboratory at Florida State to develop a plan to relocate their 900MHz super-conducting magnet. This extremely delicate machine took more than 12 years to construct and cost over 13 million dollars. The magnet had to maintain an almost perfectly level position (within 1 degree) while in transport to protect the magnet. Barnhart conducted a test haul to determine the ability to control and maintain acceptable G-s that would be sustained by the magnet during relocation. The magnet was placed on the hydraulic slide system and slowly transferred on to the 6 line self-propelled trailer. The platform trailer is an excellent tool when precision leveling is required. Although the haul was only 400 yards, it took almost four hours to complete, traveling at approximately .88 m.p.h. The hydraulic slide system was used again to meticulously slide the delicate magnet to its permanent location. Barnhart's customer commented:

***"We greatly appreciate the recent efforts of BC&R to successfully relocate our 900 MHz Magnet Assembly at the NHMFL. We were very impressed by your colleagues' professionalism and attention to detail during the planning and execution phases of this project."***

***- Brian P. Fairhurst, Deputy Director, National High Magnetic Field Laboratory***

# COVER STORY

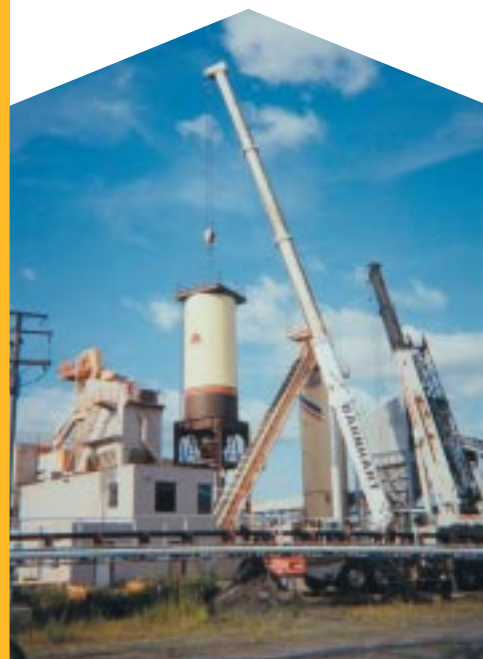
## MODULAR LIFT TOWER REACHES NEW HEIGHT

Earlier this year, Barnhart traveled to Texas with their Modular Lift Tower (MLT) to set a 320 ton, 230' tall ethane recovery column at a gas processing facility. This MLT went to a new Barnhart erected height of 263' above grade and utilized a 450 ton strand jack system to perform the main lifting and a Demag CC2000 crawler crane to tail the column. The tower went together in 7 days including 3 days lost due to wind. The tower sustained 60m.p.h. wind gusts during the erection process. The lift commenced at 4:30 a.m. and the recovery column was safely on its anchor bolts by 10:00 that morning. The tower was then disassembled in only 2 days.

The MLT competed successfully against several heavy lift cranes. The MLT does not congest a job site like a large crane allowing other work to continue. This alternative heavy lift system is a versatile piece of equipment that is customized to each specific project and typically has lower ground loading and higher safety margins than comparable heavy lift cranes. Hats off to Barnhart engineers and the crew for safely making Barnhart history.

## 440 TON CRANE DEBUTS AT RICHMOND BRANCH

Barnhart utilized their DeMag 440 ton hydraulic truck crane to remove a 74,000 lb. silo from its current location at an asphalt plant in Richmond, Virginia. Tight quarters required that the lift be carefully planned, coordinated and executed with the silo manufacturer and plant personnel. The silo was lifted up and over a conveyor and lab building and then tailed down with a 65 ton truck crane. The silo was then loaded on a trailer, relocated on site and erected safely with Barnhart's 140 ton Clark, conventional boom crane.



# BARNHART SETS NMR RESEARCH MAGNET

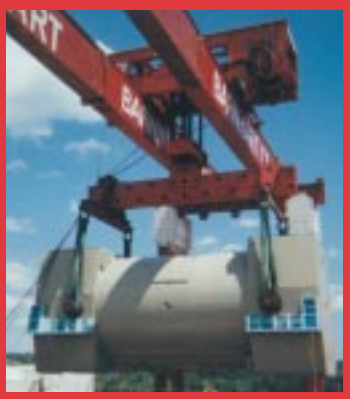
Recently, a local Memphis hospital called on Barnhart to unload and set an NMR Research Magnet in the basement of their newly constructed NMR facility. After months of planning, the magnet finally arrived from Germany. The magnet was unloaded off a flatbed truck and lowered into the basement with a 60 ton crane. The magnet was then moved down a narrow corridor with little headroom utilizing air skates. Next, the NMR unit was moved out on to a Barnhart designed "false floor" and was jacked to the floor of the pit. Small hydraulic gantries and air skates were used for final placement. The project was completed on time and on budget for a very pleased customer.

## 2002 TOMMY EMERSON MEMORIAL SCHOLARSHIP

Congratulations to Kyndi Jorgensen, daughter of Dave Jorgensen, for receiving the 2002 Tommy Emerson Memorial Scholarship. Kyndi recently graduated with a Bachelor of Arts in Liberal Studies from Crichton College.

Barnhart's newest addition to their heavy rigging arsenal had its coming out party in the heart of Virginia this summer. The 500 Ton Hoist debuted atop the Modular Lift Tower (MLT) in Fluvanna County. In the past, the Modular Lift Tower has employed one or more 450 ton capacity strand jacks as the hoisting mechanism. The strand jacks are reliable, but slow and are not ideal for duty cycle work. Enter the new 500 Ton Hoist.

## NEW BARNHART 500 TON HOIST SYSTEM SETS STEAM GENERATOR



The hoist is containerized allowing for rapid installation and virtually immediate use. It is suited for duty cycle work giving the BCR alternative lifting systems another attractive option. The hoist has a single control box that quickly allows the system to be deployed and ready for work in quick fashion. The time saved for the lift (over 3 hours versus strand jacks), the time saved for dismantling the lift system, and the time saved for crew standby time add up to real dollars for the customer. Within an hour after completing the lift of a 580,000 lb. steam generator, the hoist unit was back on a truck and on its way to Memphis. The new 500 Ton Hoist will have a huge impact in the competitive world of heavy rigging.

# COMBUSTION TURBINES SET FROM THE SIDE

Due to a changing delivery schedule, Barnhart Crane & Rigging modified the original plan for setting the combustion turbines (CT's) at a Virginia power plant. The original plan was to set the CT's from the end followed by the generators. The generators came in much earlier than the turbines and the contractor's schedule could not wait to set the generators.

Barnhart solved the problem of setting the generators first by moving them in to place from the end of the pedestal. Barnhart assembled a four beam gantry arrangement, then transferred and set the turbines from the side. One of the side transfers is shown in the picture with the generator in place to the right with the filter house on top of it. The distance traveled for the turbines varied from 55' to 70' from the side.

# BARNHART CUSTOMIZES RIGGING AT AN ARKANSAS REFINERY

Barnhart Crane and Rigging was called on by a refinery in Arkansas to remove four out of service vessels ranging in weight from a hopper weighing 84,000 lbs. to a regenerator weighing 238,000 lbs. The two heaviest vessels were located on top of a 40' high foundation surrounded by a fuel line, making access to the vessels difficult. Due to the weights of the vessels and thin wall thickness, combined with the integrity of the vessels being uncertain, conventional trunnions were not practical.

Weighing all factors, Barnhart engineers designed and built temporary lifting devices that would act as temporary trunnions and would bare against the outside shell and not be attached to the vessels. These temporary lifting devices were designed to accommodate the various diameters and are rated to 150 tons. The temporary lifting devices work with a lug that is welded near the bottom of the vessel that is required to "tip" the vessel into the girth strap and also used for tailing. Two wire rope slings restrain the vertical movement while another wire rope sling (the girth strap) is required to "basket" the vessel in both the vertical and horizontal positions. Barnhart employed one of its 500 ton hydraulic cranes to perform the main lifting for these complicated lifts.

| TELESCOPIC BOOM CRANES | MODEL NO. | BOOM |
|---|---|---|
| 500 Ton Liebherr All-Terrain (2) | LTM 1400 | 440′ |
| 440 Ton Demag Truck Crane (2) | HC 1010 | 348′ |
| 300 Ton Demag All-Terrain | AC 665 | 389′ |
| 225 Ton Liebherr All-Terrain | LTM 1160 | 364′ |
| 210 Ton Krupp All-Terrain (2) | GMK 5210 | 322′ |
| 180 Ton Demag All-Terrain (3) | AC 435 | 262′ |
| 165 Ton Demag All-Terrain (3) | AC 335 | 302′ |
| 150 Ton Demag All-Terrain (2) | AC 395 | 253′ |
| 150 Ton Krupp All-Terrain (2) | KMK 5100 | 227′ |
| 120 Ton Demag All-Terrain | AC 265 | 204′ |
| 110 Ton Liebherr (3) | LTM 1090 | 243′ |
| 110 Ton Krupp All-Terrain | KMK 5110 | 214′ |
| 100 Ton Demag All-Terrain (4) | AC 205 | 219′ |
| 80 Ton Krupp All-Terrain (4) | KMK 4070 | 175′ |
| 80 Ton Grove RT (2) | RT 990 | 206′ |
| 70 – 60 Ton Truck Crane (5) | | 186′ |
| 50 – 30 Ton Grove Truck Crane (14) | | 142′ |
| 22 Ton Grove All-Terrain/Truck (4) | | 113′ |
| 27 – 12 Ton Boom Truck (6) | | 149′ |
| 17.5 – 8 Ton Carry Deck (7) | | 37′ |

| CRAWLER/RINGER CRANES | MODEL NO. | BOOM |
|---|---|---|
| 1800 Ton Demag with Ringlift | CC 4000 | 595′ |
| 880 Ton Demag Crawler with Superlift | CC 4000 | 550′ |
| 600 Ton Demag Crawler with Superlift | CC 2600 | 295′ |
| 500 Ton Demag Crawler | CC 2600 | 295′ |
| 440 Ton Demag Crawler with Superlift | CC 2000 | 435′ |
| 386 Ton Demag Crawler with Superlift | CC 1200 | 433′ |
| 360 Ton Link-Belt Heavy Lift | LS 718 HL | 480′ |
| 330 Ton Demag Crawler | CC 2000 | 433′ |
| 275 Ton Demag Crawler | CC 1200 | 433′ |
| 250 Ton Link-Belt Crawler Tower Crane (2) | LS 718 | 550′ |
| 250 Ton Link-Belt Crawler Crane (2) | LS 718 | 450′ |

| LATTICE BOOM TRUCK CRANES | MODEL NO. | BOOM |
|---|---|---|
| 800 Ton Demag Truck Crane with Superlift | TC 3000SL | 496′ |
| 550 Ton Demag Truck Crane | TC 3000 | 496′ |
| 440 Ton Demag Truck Crane with Superlift | TC 1200 SL | 472′ |
| 308 Ton Demag Truck Crane | TC 1200 | 472′ |
| 200 Ton Link-Belt Truck Crane | HC 258 | 370′ |
| 125 Ton Link-Belt Truck Crane (2) | HC 238 | 300′ |

## HEAVY LIFTING, MOVING & SLIDING

500 Ton Hydraulic Gantries (20)
1000 Ton Sliding Systems (8)
Forklifts to 120,000 lbs. with hydraulic booms
1800 Ton Strand Lift
Lift Towers to 1200 Tons
2400 Ton Jacking System
Air Casters to 500 Tons

## MARINE SERVICES

Memphis, TN - Heavy Lift Terminal with 1250 Ton Derrick Crane, Rail Service, Heavy Storage
Mobile, AL - Heavy Cargo discharge and storage, RO-RO, Barge/Rail Loading Heavy Lift Services
Decatur, AL - Barge Dock, Cranes to 500 Tons, RO-RO
Pascagoula, MS - Heavy Cargo discharge and storage, Barge/Rail Loading, Heavy Lift Services

## TRANSPORTATION SERVICES

Over 2000 Tons of Hydraulic Platform Trailer Capacity including SPMT
Barge and Rail Loading and Securement
Dolly Transporters to 1000 Tons
48 State Heavy Haul, Stretch Trailers, Tank Trailer to 16′ diameter
Temporary Bridges to 152′
Jumper Ramps 30′-152′

## INTERNATIONAL SERVICES

The following can be shipped in standard containers:
Lift Towers, Dolly Transporters, Gantries, Goldhofer Trailers, Sliding Systems,
Barge Ramps, Temporary Bridges, Strand -Lift Systems

## STORAGE CAPABILITIES

500,000 Square Feet of Indoor Warehousing
Over 100 Acres of Outdoor Storage

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