

MEXICO TRANSPORT, INSTALLATION AND REPLACEMENT OF A BRIDGE SECTION AT COATZACOALCOS, VERA CRUZ

PROJECT	EQUIPMENT	WEIGHT
CIVIL	SPMTs / STRAND JACK AND TOWER LIFT SYSTEM / BARGES	UP TO 560 TON

In August 2014 Fagioli were awarded for the replacement of a 600 ton bridge section at Coatzacoalcos, on the main communication road between the town and the South-East part of México. The old bridge section was to be replaced by a new one weighing 560 ton . 48 axle lines SPMTs (2 rows of 24) were assembled and provided with 4 towers with a height of 5,9 mts each . Within the construction area Fagioli prepared 4 towers (each one made of 2 x 5,9 mts sections) provided with 8 x L180 strand jacks for the lifting of the bridge (pict 02. After the lifting operation the SPMTs(with towers) were moved underneath the bridge section lifted at a suitable height by the tower ift and strand jacking system. Picture 4 shows the bridge load taken completely by SPMTs. SPMTs were then moved across the yard to reach the quay for a challenging load out operation performed onto 2 barges (pict.4 and picture above). Once ready the barges were moved toward the installation are (pict. 5). Client built two dedicated skidding beams onto which the old bridge section was lifted and skidded on one side (picture 6). The barges were positioned in order to allow the installation of the new bridge section onto the skidding beams by lowering the hydraulic system of Fagioli SPMTs (picture 7)



Above: detail of bridge load out onto 2 barges

ITEM DIMENSION

#	Item name	Erection weight [t]	Length (mt)	Height (mt)
1	Bridge	560	68.2	18.4

EQUIPMENT USED

- 1) 2-2 x lines of Fagioli SPMT'S Trailers "12 axles", total 48 axles;
- 2) 4 Fagioli Towers (5.9m height); strand jacks
- 3) 8 Capping beams (2-W10x88 each one) to load the steel mats;
- 4) 8 steel mats (5-W10x88 beams each one) to load the bridge load

The old one ready was taken away by the two barges which moved the new one (pict.8)

PECULIARITY OF THE TRANSPORT

- Deep studies in order to issue the best road transport configuration for the new bridge section including detailed engineering studies due to the height of the item positioned onto the towers.
- Engineering / Ballast procedures, stability and mooring calculation / Accelerations calculation during river transport.
- Challenging load out operation by SPMTs onto two barges and final installation procedure.
- Zero Accidents!



Above: Detail of the old bridge section



Above: Detail of the new bridge section lifted by strand jacks



Above: SPMTs taking all the load of the bridge section



Above: Load out operation onto 2 barges



Above: Arrival of the barges and bridge section at installation area



Above: Detail of the old bridge section skidded on one side



Above: Installation of the new bridge section



Above: The old bridge section is taking away