

# Application Success

## Mobile Off-road



### Application Overview

A sand and gravel quarry in New Jersey has 4 medium size loaders that run all day long.

### Why Automatic Lubrication?

On an average day each Komatsu WA500 loader can make up to 200 drops. Needless to say sand is present everywhere and will find its way into critical bushings and pins located on the front of the loader. Frequent lubrication cycles are necessary to keep the sand from gaining access to these points and keeping the bushings and pins constantly flushed with new grease which eliminates greasing the machines by hand. The automatic lubrication systems maintain a collar of grease around the bushings which form a barrier against the sand.

*Please contact factory for additional information on this or any other application.*

### BDI Products

- + TTN Injector Lubricator
- + MultiPort Mobile Lubricator
- + CXL Injectors
- + SMDC Mobile Controller

### Advantages

- + Wide range of system types to accommodate unique machine arrangements
- + Low-cost pump and controls options
- + Stainless steel injectors available
- + Local distribution and support

## Products Utilized for Komatsu WA500 Loader

### *TTN Injector Lubricator*

- + **Description:** 24 VDC, 4 liter (8 lb) reservoir, with a low level switch, used with a SMDC Controller

The TTN Injector Lubricator is capable of pumping up to NLGI grade 2 grease at a pressure of 3600 psi (248 bar). The TTN Injector Lubricator is an automatic, electric lubricator available in either 12 or 24 VDC motor voltages. Inside the reservoir, a spring-loaded bellows forces grease into the pump housing assuring reliable delivery with each lubrication cycle.



### *MultiPort Mobile Lubricator*

- + **Description:** 24 VDC, 4 liter (8 lb) reservoir, with a low level switch, used with a SMDC Controller

The MultiPort Lubricator is an electrically driven multiple outlet lubrication unit designed primarily for use with progressive divider valve systems. The unit is capable of housing up to three independent pumping elements for direct feed to lubrication points or through a distribution network of progressive divider valves. These lubricators are available with either 12 or 24 VDC motors which make them ideal for use in mobile applications. Use of a remote timer/controller (SMDC) is required for this lubricator.



### *CXL Injectors*

- + **Description:** 2, 4, 6 outlet injector manifolds, Outputs range between 0.05 and 0.40 cc.

With a wide selection of discharge rates available, these positive displacement injectors deliver a precise amount of grease to lubrication points. Manifolds are available in various configurations ranging from 2 to 12 outlets (single and double row), allowing you to lubricate many points from a single location. CXL Injectors are protected with a Dacromet coating that is rated up to 1000 hours in salt spray testing.



## Typical System Layout

At the quarry, they use 3 MultiPort Lubricator/Injector systems installed along with a TTN Injector Lubricator/CXL Injector system installed on a Komatsu WA500 loader. Lubrication intervals are set for every 10 minutes with a wide range of discharge rates being used based on each bushings and pins grease requirement. Heaviest shot of grease is sent to the bucket pins, 0.4cc (0.024 cu. in). A pressure switch is mounted on the last manifold in the system out on the lift arm; this is to insure that all grease injector points have received sufficient pressure to fire their preset amount of grease. Pressure switch is satisfied at 2000 psi (138 bar). High pressure hose is used throughout for ease of lubrication system installation and there are a total of 25 points.

## Background

These systems have been installed for approximately 2 years and working flawlessly in summer and winter conditions. Prior to the installation of these automatic lubrication systems loaders had to be manually lubricated. This led to many points being either under or over lubricated. The process also took over 2 hours.

Refer to the following datasheets:

- + *Datasheet #35547:*  
*TTN Injector Lubricator*
- + *Datasheet #35577:*  
*MultiPort Mobile Lubricator*
- + *Datasheet #35482:*  
*CXL Injectors & Manifolds*
- + *Datasheet #46911:*  
*SMDC Controller*

### BIJUR DELIMON INTERNATIONAL

(919) 465 4448 LOCAL  
(800) 631 0168 TOLL-FREE  
(919) 465 0516 FAX

[WWW.BIJURDELIMON.COM](http://WWW.BIJURDELIMON.COM)

2100 Gateway Centre Blvd., Suite 109  
Morrisville, NC 27560

*Please contact factory for additional information on this or any other application.*

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