

#### **13.23.11 Excess Seal Coat Cover Aggregate Removal**

The Contractor shall perform a brooming operation within approximately 24 hours after traffic has been placed on the newly seal coated surface. This prompt brooming operation will reduce the likelihood of damage to windshields and other vehicle parts due to excessive loose cover aggregate. A rotary power broom should be applied lightly to remove excess aggregate. The asphalt emulsion will not have fully cured therefore, the broom must be applied lightly and not dislodge aggregate that is coated, but not locked into the emulsion.

#### **13.23.12 Seal Coat Documentations**

Seal coat is measured and paid by the square yard. The PEMS must determine, on a daily basis, the area covered by the seal coat operation and note the quantity in the SiteManager DWR. Include all daily calculations and sketches in the contract file.

### **13.24 ASPHALT PAVING EQUIPMENT** (Rev. 03-01-22)

#### **13.24.1 Asphalt Mixing Plant**

HMA mixing plants are typically either batch plants or drum plants.

A batch plant produces HMA in batches. The maximum batch size is limited by the capacity of its pugmill. The pugmill is the chamber where the aggregate and the PG binder are mixed together.

Batch plants may be portable or stationary. Portable plants can be erected and utilized at a location for a certain period of time. They can then be disassembled and taken to a different location to repeat the process. Stationary plants are erected and operated at a fixed location for extended periods of time.

Typically, aggregates are stockpiled until the asphalt mixture production begins. The aggregates are then transported into the cold feed bins. It is then necessary to heat and dry the aggregates prior to screening and storing of the heated aggregates. It is also necessary for the PG binder to be stored and heated prior to beginning the mixing process. The batch plant produces the asphalt mixture by combining the proper proportions of the aggregates and the PG binder. Finally, the resulting mixture is loaded into the hauling trucks and transported to the job site.

At a drum plant, the mixing of the aggregates and PG binder takes place in the same drum where the aggregates are heated and dried. Also, the aggregate gradation is controlled at the cold feed bins rather than undergoing a screening process as is the case at a batch plant.

#### **13.24.2 Asphalt Distributor**

Asphalt distributors are used to apply asphalt material associated with tack coats, prime coats, dust palatives, and other type liquid applications. Figure 13.24-1 shows an asphalt distributor in use.



Figure 13.24-1 Asphalt Distributor

### 13.24.3 Hauling Equipment

Typically, tri-axle trucks haul asphalt mixtures from the mixing plant to the job site.

The truck beds are required to be tight, clean, and smooth. Approved anti-adhesive agents are required to be utilized to prevent residual mixture from adhering to the truck bed. Also, the truck beds require waterproof covers to protect the mixture from adverse weather conditions, prevent contamination of the mixture, and to maintain temperature on cool weather days.

### 13.24.4 Material Transfer Device

Material transfer devices, sometimes referred to as shuttle buggies or MTDs, are sometimes utilized in a paving operation. An MTD effectively increases the size of a paver's hopper. This is beneficial because segregation can occur in a newly placed course when a paver is required to stop when it runs out of mixture. Figure 13.24-2 shows an MTD taking a tri-axle load of mixture into its hopper and simultaneously transferring mixture into the paver's hopper.



Figure 13.24-2 Material Transfer Device

#### 13.24.5 Paver

The paver is the piece of equipment that receives the asphalt mixture from the haul truck or MTD and places it on the treated subgrade, existing pavement, or a previously placed course. Pavers must be self propelled and may be either equipped with wheels or tracks. Augers and vibratory screeds are used to distribute the mixture. Most pavers also employ automatic grade and slope controls which enable the paver to place the asphalt course at the proper profile and cross slope. Other paver features include extendable screeds and extendable augers. A typical paver is depicted in Figure 13.24-3a.

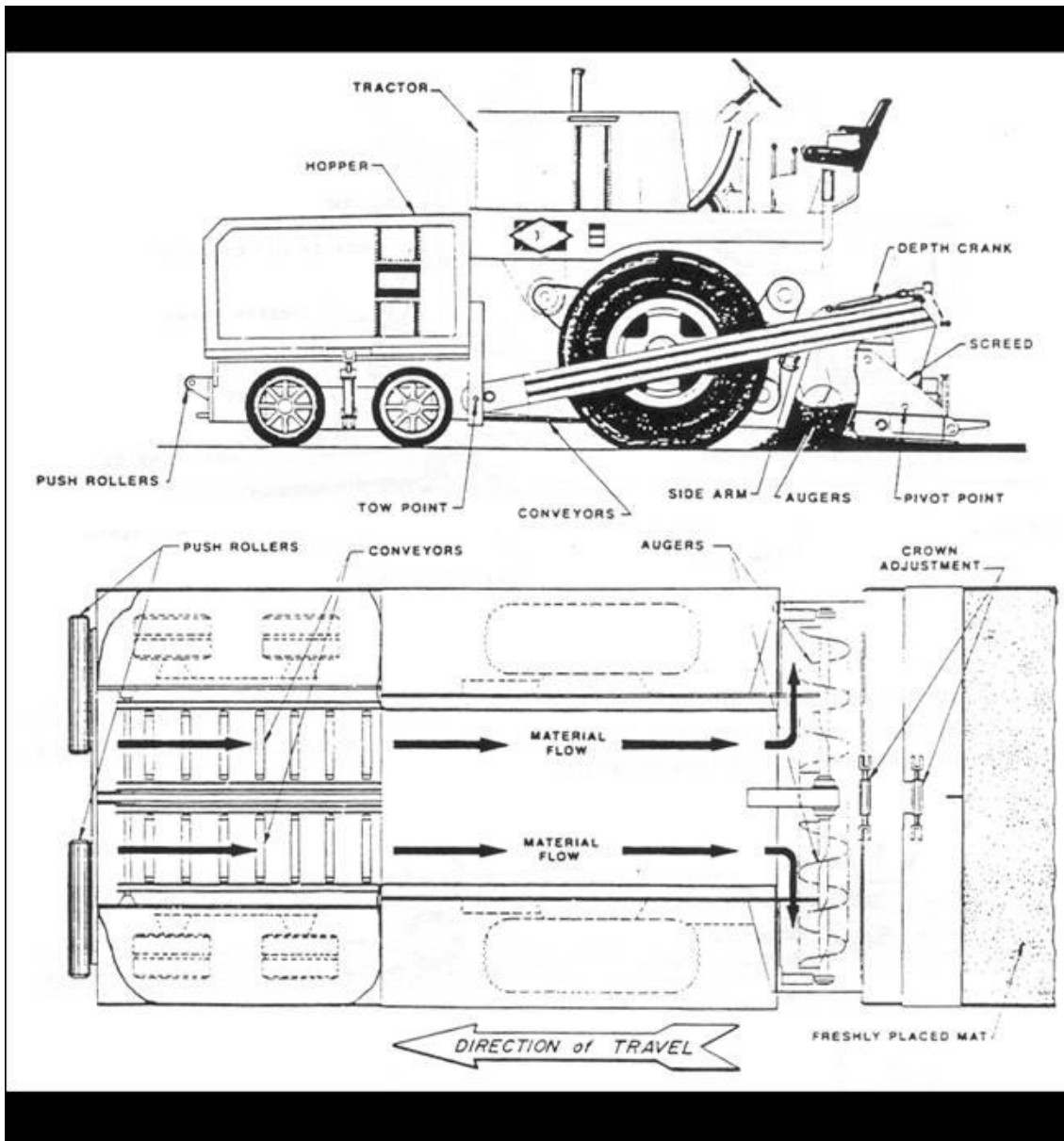


Figure 13.24-3a Asphalt Paver

The use of spray pavers may be an option for the Contractor to consider for paving operations. Spray pavers combine the processes of both the paver and distributor truck into one machine. Spray pavers allow the Contractor to perform the application of an emulsion tack coat and the placement of an asphalt paving course in one process. The paver utilizes rows of emulsion distribution nozzles placed in front of the hopper and near the rear axle. The distribution nozzles can coordinate spray patterns to place a uniform coat of emulsion on the existing surface. The distribution nozzles provide a consistent and uniform application just prior to the placement of the asphalt pavement course. This process helps eliminate the potential for the traveling public or the paver to track emulsion on tires or treads. These pavers can also perform paving operations without utilizing their emulsion application process. Spray pavers must be in accordance with 409.



A typical spray paver is shown in Figure 13.24-3b. Spray paver nozzle distribution of emulsion is depicted in Figures 13.24-3c and 3d.



Figure 13.24-3b Typical Spray Paver

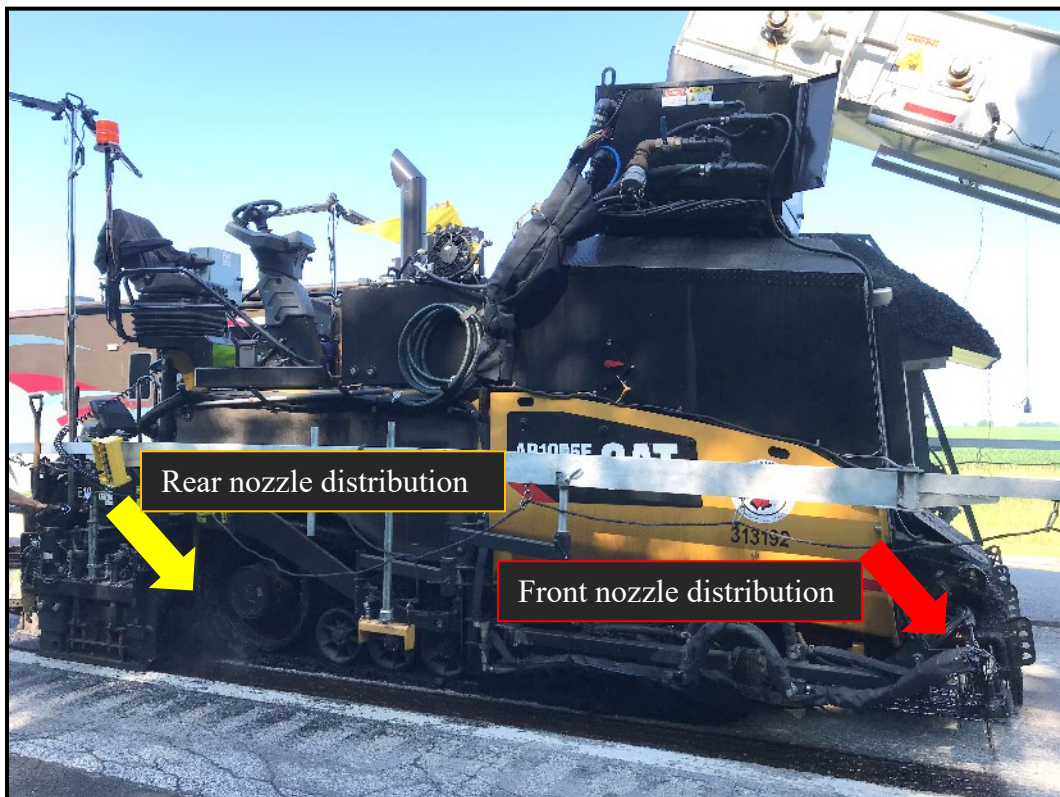


Figure 13.24-3c Spray Paver With Front and Rear Nozzles Identified



Figure 13.24-3d Spray Paver Emulsion Application Locations  
Red indicates front nozzle application, and  
Yellow indicates rear nozzle application

#### 13.24.6 Wideners

Wideners are used in situations where the required paving width is insufficient to accommodate a paver. This piece of equipment typically casts the mixture to the side and is usually used to widen an existing pavement. Wideners are equipped with an adjustable screed which is capable of constructing a course to the proper grade and slope. Figure 13.24-4 depicts a typical widener in use.



Figure 13.24-4 Widener