CHAPTER III
VEHICLE QUALIFICATION AND INSPECTION

300 GENERAL

This chapter discusses hauling equipment and vehicles operated at extralegal weight on the State highway system.

It discusses bridge rating as well as vehicle ratings for routing over the bridges. It covers allowable axle loading, selection of hauling equipment, close coupling, suspension systems, steering requirements and vehicle inspection requirements for both fixed vehicles and cranes. It also covers boat trailers, special hauling equipment and other miscellaneous items.

An overweight transportation permit is required for the movement of any vehicle that exceeds the allowable weights authorized in Division 15 of the California Vehicle Code. Generally speaking, when the weight imposed upon the roadway by the wheels on any single axle exceeds 20,000 pounds and/or when the gross weight upon any group of axles exceeds 34,000 pounds or if the front steering axle on vehicles referenced in CVC 35550(a) exceed 12,500 pounds, movement will require a transportation permit.

State highway bridges have been assigned load ratings,which control the amount of extralegal weight that may be authorized on a given route. These ratings are designated no permit, orange, green, and purple (X,O,G,P, respectively). Sections of road which include load posted bridges (signed for load restriction) will not be available for the movement of extralegal weight vehicles and/or loads. The movement of extralegal weight vehicles and vehicle combinations will be reviewed based on the orange, green, and purple overload charts and the load capacity of the structure on the proposed route.

301 NON-WEIGHT APPLICATIONS

Permit vehicle inspections are not generally required for vehicles or vehicle combinations described on non-weight applications except those required in Section 303 of this chapter. Extralegal size vehicles shall not be used except when the load justifies their use.

The application should be reviewed for reducibility before issuing a permit authorizing the use of an extralegal vehicle.

302 EXTRALEGAL WEIGHT APPLICATIONS

Extralegal size vehicles shall not be used except when the load justifies their use. Extralegal weight applications are authorized only when the hauling equipment meets certain requirements. Discussed below are the pertinent design characteristics needed.

302.1 MINIMUM VEHICLE SIZE

In order to qualify for extralegal weight, the minimum hauling configuration shall consist of a two vehicle combination, including a three (3) axle tractor and a two (2) axle semitrailer with a 5th wheel connection. The vehicle shall be equipped with dual tires on all axles except the steering axle. Super singles of a minimum size of 18 x 19.5 are an acceptable substitute for dual tires.

Extra legal weight is not authorized on a single axle unless that axle is a front steering axle or is used in combination with adjacent axles to make one commonly suspended axle group.

Extralegal weight is authorized on a single vehicle only when that vehicle is a fixed load vehicle and the equipment mounted on that vehicle is used to perform a single job site function.

302.2 SELECTION OF HAULING EQUIPMENT

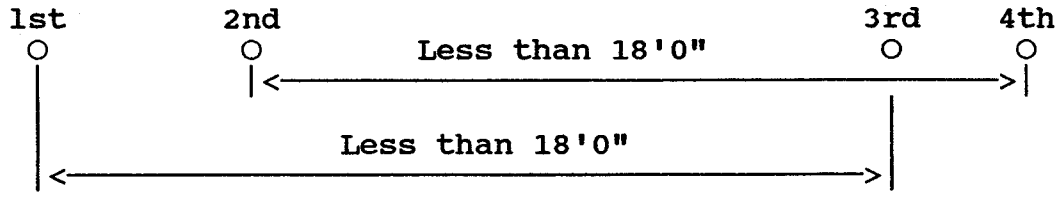
Applications shall be reviewed for appropriate hauling equipment. The load shall justify the size of hauling equipment, i.e., 5-axle vs 7-axle etc., except that the permittee, at his option, may use either a 5-axle purple or a 7-axle green combination on a 5-axle purple route.

Non-qualifying vehicles may also be authorized on the permit only when one leg of a move involves the movement of a qualifying load.

302.3 CLOSE COUPLING

Permit weight is authorized on groups of axles and not for gross weight. When these groups are properly spaced the maximum chart weight for orange, green or purple is authorized on each group. However, when the spacing between adjacent groups of axles reduces to a certain point the combined weight of both axle groups may overstress pavement and structures. This situation is called "Close Coupling".

When evaluating groups of axles to determine if a "close coupling" situation exists the distance between the two groups as well as the axle spacing within the groups shall be considered. (See Diagram below) Close coupling exists when two axles of the first group are within 18'0" of the closest axle of the adjacent groups.



CLOSE COUPLING DIAGRAM

If "close coupling" does not exist full chart weight is authorized. If either of the dimensions above are 18'0" or less "close coupling" exists. Refer to the appendix in this manual for allowable weight calculations.

302.4 SUSPENSION SYSTEMS

Vehicles operating at extralegal weight shall be equipped with acceptable suspension.

All axles within the same suspension group shall have a common suspension system that naturally divides weight between all axles equally and equitably, both statically and dynamically under all loading conditions without any influence from an outside source.

Air bag suspension systems are required to have a common air supply to all bags without any valving or quick disconnects to alter the natural flow of air between bags. Left to right leveling valves are allowed.

When permit applications are received requesting purple weight on hauling equipment incorporating a leaf spring suspension system on the trailering equipment the following is required:

- Certified axle and axle group scale weights;
- Scale location and dates of weighing;
- Individual axle weights shall be within ten percent of the mean weight of that axle group; and,
- Direct correlation between the scale ticket furnished and the permit application.

Axle weight obtained from the applicant using his own scales shall be submitted in writing, dated, and signed by a company representative.

Front steering systems of self propelled vehicles that incorporate tandem or tridem axles and that do not exceed green weight are not required to have common suspension but the weight carried should be equitably distributed between the two axles.

Fixed load motor vehicles such as construction equipment, ie., scrappers and loaders, not having suspension systems between the axles and frame may only be incidentally operated on non-freeway portions of State highways with posted speed limits of 50 mph or less and for a maximum distance not to exceed 25 miles. In all other circumstances, these units shall be transported as a load.

Suspension systems that incorporate the use of shims and/or air or hydraulic devices that alters the natural weight distribution between axles in a loading group are <u>not</u> acceptable.

302.5 ALLOWABLE AXLE WEIGHT

302.5.1 Single Front Steering Axles

Single steering axles, except those listed in CVC 35551(c), shall be limited to 12,500 pounds (legal weight) unless additional weight is requested and the applicant provides sufficient proof that the vehicle has been modified or equipped with an axle of a rating equivalent to or greater than the weight requested. Additionally, the axle shall have adequate tires to carry the weight requested. The maximum permittable weight on a single steering axle is limited to one-half of the allowable weight on tandem drive axles, or one-third the weight allowed on three drive axles.

302.5.2 Dual Front-Steering Axles

Dual-steering axles shall be limited to 32,500 pounds (legal weight) unless additional weight is requested. Additional weight may be authorized provided there is tire capacity equivalent to or greater than the weight requested. Standard overload charts will prevail for maximum weight

302.5.3 Axle Loading Group

The "axle loading group" is all axles within an 18'0" axle bridge regardless of whether they use a common suspension system or not.

The maximum allowable weight for the loading group is that weight which corresponds to the respective axle spacing in the standard overload charts.

The maximum allowable weight for any tandem, whether or not it is used in combination with other axle groups in the same suspension system, shall not exceed the following:

	Unbonused	Bonused
Orange	40,000 lbs	42,000 lbs
Green	48,000 lbs	52,000 lbs
Purple	56,000 lbs	60,000 lbs

These weights are derived from the maximum single axle weight of 26,000 lbs green and 30,000 lbs purple. Tridem axles are allowed chart weight for the given axle spread.

Single axles are not allowed extralegal weight unless they are used in conjunction with a tandem or tridem axle group using a common suspension system between both groups or they are front steering axles. Single axles used in this configuration would be allowed a proportionate share of the multi-axle group with a $\pm$ 10% tolerance, but not to exceed the following:

	Unbonused Single Axle	Bonus Single Axle
Orange	20,000 lbs	21,000 lbs
Green	24,000 lbs	26,000 lbs
Purple	28,000 lbs	30,000 lbs

Allowable axle group weight when mixing bonus axles with unbonused axles is discussed in Appendix 6. Close Coupled Axles.

302.6 FIXED IN LINE AXLES

Extralegal weight is not authorized on fixed in line axles (non-steering) mounted on a common, non-articulating frame when the axle bridge dimension from the first axle to the last axle exceeds 10'0".

This generally occurs on mechanical distribution systems, platform trailer and at times when secondary axle(s) are placed under the load deck of a semitrailer.

302.7 TIRE CAPACITY

Extralegal weight is not authorized on any axle unless that axle is equipped with tires of a total capacity equal to or greater than the weight requested. The tire with the least capacity shall be used to determine axle weight if equipped with tires of different rating capacity.

Movement at reduced speed to qualify for greater weight authorized by Title 13, Article 14 of the California Administrative Code will not be permitted.

303 VEHICLE INSPECTION

Vehicle inspections are performed to record data and evaluate the acceptability of extralegal vehicles. A record is provided for the convenience of the owner and used by the Department when appropriate on permit application. Inspections will be required on all four-axle power units, fixed-load vehicles, heavy haul combinations routed as nine axles or more, vehicles with mechanical distribution systems; and vehicle combinations where there is reason to believe a weight distribution problem or a dimensional inconsistency exists. Any change in ownership of a fixed-load vehicle will require reinspection.

Inspections will be performed by Headquarters Permit Vehicle Inspectors. The transporter should be encouraged not to wait until the last minute to request an inspection. Headquarters Permit Vehicle Inspectors are located in Districts 2, 8, and 10 and are often scheduled for inspections days or weeks in advance.

If appointments are not available, District permit offices may request a one time verbal clearance by either the inspector or Headquarters. This will only be used when sufficient information has been provided to ascertain probable compliance and a future appointment has been made with the inspector. A copy of the permit shall be sent to Headquarters and a statement shall be included on the permit that "no return trip or second move will be allowed without an inspection".

Headquarters Vehicle Inspectors can be reached at the following telephone numbers.

Northern California (Redding)

(916) 225-3204
(ATSS) 8-442-3204

Central California (Stockton)

(209) 948-3828
(ATSS) 8-423-3828

Southern California (San Bernardino)

(714) 383-4191
(ATSS) 8-670-4191

All inspectors are provided telephone answering machines and are required to return calls no later than the following working day or to inform the caller where to call for assistance.

304 RATING CLASSIFICATION

The routing of extralegal weight vehicles is determined by the load capacity of the structures on the route. The load capacity is determined by the analysis or design for permit hauling configurations of 5, 7, 9, 11 and 13 axles up to 135 feet in length and color coded to determine allowable axle weights.

The hauling configurations are divided into "axle loading groups", which for the purpose of routing are each counted as two axles regardless of the number of axles actually in the group.

Typically, a three-axle tractor and two axle semitrailer would consist of two loading groups (drive axles and semitrailer axles) and the steering axle. In this example, it, literally by axle count, fits the rating for five axles. If the semitrailer was equipped with a tridem, it would still be viewed as one loading group and assigned a number of two (2) for axle count and still given a five (5) axle rating.

The following vehicle combinations require special consideration and routing. They are not subject to the special bridge analysis required above.

Vehicle combinations normally routed as a 9-axle with an interior axle bridge (spacing between inner axles in the groups bordering the load deck) greater than 40'0" and an overall length less than 135'0" shall be routed as a 11-axle. They do not require Headquarters involvement.

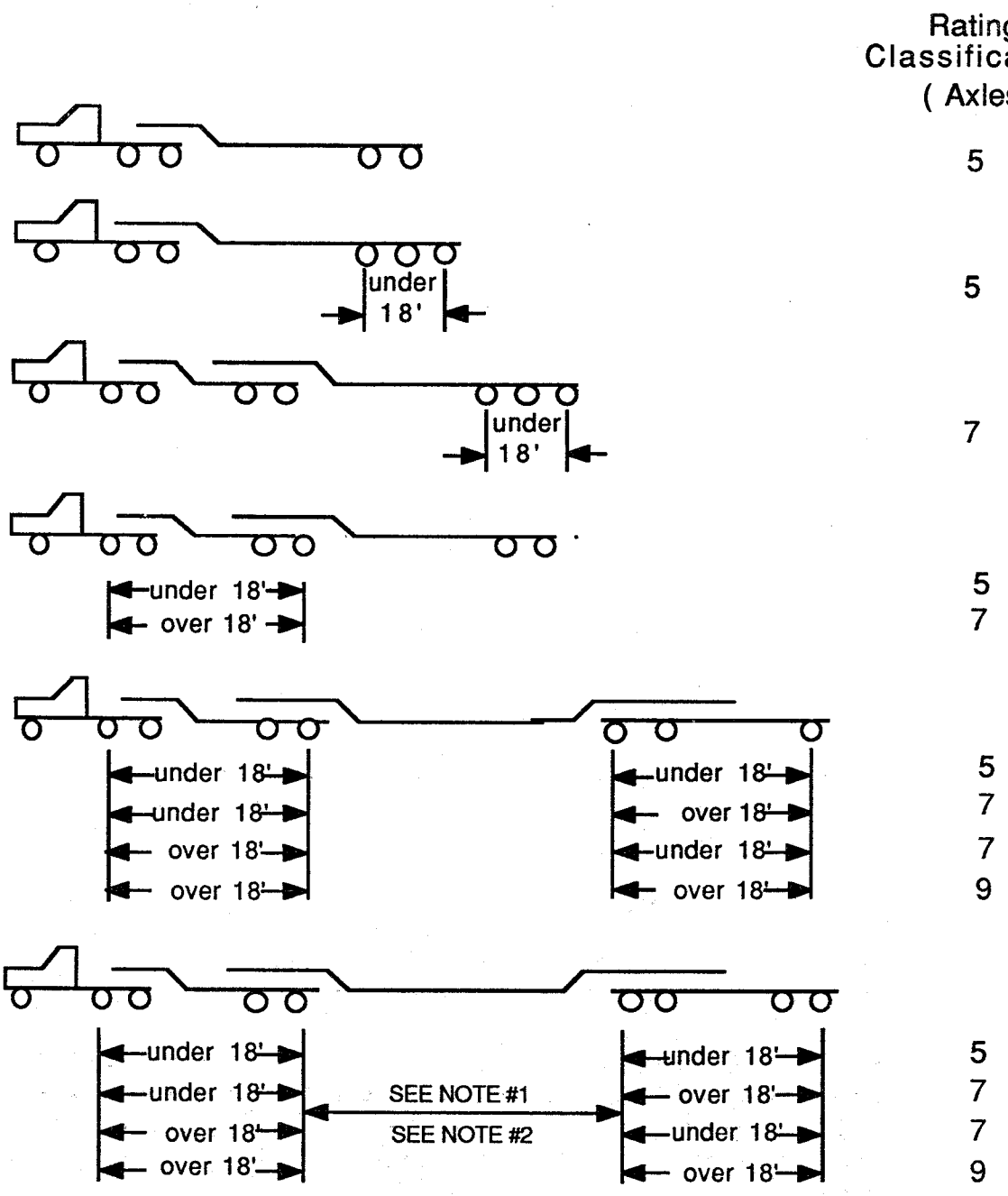
Vehicle combinations normally routed as a 9-axle with an overall length equal to or less than 135'0" and used with a pusher with an overall combination length greater than 135'0" shall be routed as 11-axle and requires a variance from Headquarters.

Vehicle combinations normally routed as a 13-axle with an overall length equal to or less than 135'0" shall meet the standard routing policy and do not require Headquarters variance.

Vehicle combinations normally routed as a 13-axle with an overall length greater than 135'0" and without a pusher requires a variance from Headquarters.

The following diagrams pictorially depict the most common vehicle combinations. For simplicity, the combinations shall be assumed to have 4"6" spacing between tandems.

VEHICLE CONFIGURATION



Note #1: Combinations normally routed as a 9-axle with an interior axle bridge greater than 40' 0" and an overall length less than 135' 0" shall be routed as a 11-axle.

Note #2: Combinations normally routed as a 9-axle with an overall length equal to or less than 135' 0" and used with a pusher with an overall combination length greater than 135' 0" shall be routed as a 11-axle.

All vehicle combinations except tow trucks and truck cranes will be routed by rating classification described above. Tow trucks, regardless of the number of axles on the ground, will be routed as seven axle combinations and truck cranes will be routed as a five axle combinations.

Special hauling equipment such as beam and dolly, platform trailers or any hauling equipment that does not fit into the above diagrams shall be referred to Headquarters for a rating classification.

305 FIXED LOAD VEHICLES

305.1 GENERAL

All fixed load vehicles requiring permits shall be weighed and inspected for extralegal features before the initial permit is issued. Subsequent weighings and inspections shall be at the State's option. Additional inspections may be required if overweight citations are issued or when ownership is changed.

Inspections will be performed by Headquarters Permit Vehicle Inspectors. If appointments are not available, it is acceptable to get a verbal clearance for a one-time move from either the inspector or Headquarters. This will only be used when sufficient information has been provided to ascertain probable compliance and an appointment has been made with the inspector. A copy of the permit shall be sent to Headquarters and a statement shall be included on the permit that "no return trip or second move will be allowed without an inspection".

A standard inspection report form will be provided for the inspection. Inspection will only be made when the vehicle is set up for highway travel. For cranes this includes counterweights, outriggers and other related equipment.

Weighing may be done on either privately owned or State operated scales. Scales shall have a current seal issued by the appropriate State or County agency authorized to certify calibration. All charges at private scales shall be borne by the applicant. No charge will be made for scale weights at California Highway Patrol weigh stations, and no inspection charges shall be made for routine required inspection by Caltrans. However, applicable charges may be assessed the permittee for additional inspection time: (1) requested by permittee to verify conformance; (2) required due to permittee not making previous inspection appointment, and (3) reinspection of unit which failed earlier inspection.

The permittee is responsible for compliance with the permit. Permits may be written authorizing the movement of a vehicle to scale facilities for axle weight verification; however, if the vehicle exceeds the weight authorized on the permit, the permittee may be subject to enforcement action. Permits will not be available to leave the scale facilities for vehicles that exceed purple weight.

A copy of the inspection report shall be submitted by the applicant with any permit application. The report fully describes the unit (length, width, height. weight) and will list the equipment to be included or excluded as the case may be.

The inspection report will be a part of the permit and shall remain attached to the permit. Additionally, profile sheets will be attached to all crane permits and shall remain attached to the permit.

305.2 FIXED LOADS OTHER THAN CRANES

305.2.1 General

Operations of extralegal weight fixed load vehicles under permit are controlled by the orange, green or purple standard overload charts. Permit weight will not be authorized for reasonably reducible loads or for portions of loads which are not necessary to perform a primary and singular task at the job site, e.g., drilling, servicing, pumping, and testing. Extralegal weight permits may be issued for critical operational components such as sand line, drill rod, drums etc., as long as these components do not cause the weight to jump to the next higher level, etc. (green to purple).

Extralegal weight will not be allowed on motor vehicles where the equipment required to complete the prime function may be reasonably transferred to a single or tandem axle trailer and the combination complies with legal axle and gross weight, nor where the motor vehicle can be made legal by the addition of another axle or the use of a longer wheelbase chassis.

305.2.2 Booms or Masts

Front boom or mast extension shall not exceed 30 feet beyond the front of the front tires. The maximum rear extension shall not exceed 30 feet measured from the center of the last axle of the vehicle.

305.2.3 Length

Motor vehicles shall conform to the 40-foot maximum legal vehicle length provision of 35400 C.V.C. Fixed load trailer and semi-trailer length will be reviewed on the basis that the unit is designed to perform a single function and the positioning of that equipment does not generate unreasonable length. Any device or attachment, whether bolted or welded to the vehicle, which is a component of a boom or mast shall not be included in the length measurement of the single vehicle, but will be included in the overall length measurement of the vehicle or combination of vehicles.

305.2.4 Width

Motor vehicles, trailers and semi-trailers shall not exceed 14'0" in width. However, any extralegal width shall be reviewed on the basis that the unit is designed to perform a single function and the positioning of that equipment does not generate unreasonable width. Certain devices required by or permitted by the California Vehicle Code may extend beyond the permitted width. Devices not authorized by statute shall be included in the width measurement.

305.2.5 Height

Motor vehicles, trailers, semitrailers and the load or equipment that is permanently attached to the vehicle may be any height. However, any extralegal height shall be reviewed on the basis that the unit is designed to perform a single function and the positioning of that equipment does not generate unreasonable height.

305.2.6 Inspection Reports

All Inspection Reports shall include:

- Complete company name, address, and telephone number.
- Complete description of the vehicle including make, serial number, license number, fuel level, tire size and load rating.
- Vehicle maximum width and height. Maximum width shall exclude lights, mirrors and other required devices that are allowed to extend up to 10" beyond the permissible width (CVC 35109). If the tires extend beyond the body of the vehicle or load, the maximum width shall be measured from the outside of one tire to the outside of the opposite tire, but not at the load-induced tire bulge. Tire width up to 9' is legal (CVC 35101).
- Vehicle configuration including vehicle length, overall length including mast or load, number of tires on each axle, axle spacing, axle width, actual scale weight and permit weight which consists of the scale weight plus 700 pounds rounded off to the nearest 100 pounds but not to exceed chart weight. The report shall also include a list of any miscellaneous equipment authorized to be carried or equipment not authorized to be carried.

305.3 TRUCK CRANES

305.3.1 General

Operations of extralegal weight cranes under permit are controlled by the orange, green or purple standard overload charts. Cranes can be permitted with standard working components which are commensurate with the rated capacity

of the crane. Components not necessary for the basic operation or maintenance of the truck crane shall not be permitted.

Attachments to the boom for the purpose of transferring load to meet weight requirements shall not be permitted exclusive of the standard working load block, hook and cable tension ball assembly, which are commensurate with the rated capacity of the crane.

Booms suspended forward shall be tied down while traveling on State highways.

Counterweights and outrigger assemblies may be carried on mobile cranes. However, if any "purple" designated truck crane, which subsequent to the initial inspection and issuance of the permit, is found to exceed the allowable weights, the removal of the appropriate counterweights or outrigger assemblies from the truck crane to assure compliance for traveling over State highways will be required.

Occasionally, extralegal features beyond those outlined in this subsection may be allowed when a section of highway opened to public traffic is within the limits of a contract. Project Resident Engineer may contact the District Permit Engineer to discuss the movement of extralegal equipment on highway within the contract limits. If there are bridges within the project limits, structures maintenance shall be consulted.

Weights for two-axle cranes shall conform to the standard overload charts. No transfer of loads will be permitted. Two-axle cranes not having a suspension system between the axles and frame may only be incidentally operated on non-freeway portions of State highways with posted speed limits of 50 mph or less and for a maximum distance not to exceed 25 miles. For movement in other locations, these cranes shall be transported as a load.

305.3.2 Trailers and Dollies

A trailer or dolly will be permitted only when the boom is attached to the crane upper works and is supported on the dolly or trailer. When the boom is unsupported or carried in the forward position, the trailer or dolly is considered as a reducible feature and will not be authorized.

Counterweights, outrigger assemblies, and other components commensurate with the operation or maintenance of the truck crane may be carried on the boom dolly or boom trailer. These components shall be listed on the inspection report.

Boom dollies and trailers shall not exceed statute limits for length, width or height and the distance from center of rotation of crane upper works to centerline of the rearmost axle of the boom dolly shall not exceed 38 feet. Close coupling of the dolly or trailer axles to the crane axles is not permitted. See Section 302.3 of this Chapter.

305.3.3 Grandfather Exemption

Cranes under permit prior to April 1973 and which exceed the current policy and regulations may continue to be moved under permit with special waiver until phased out of operation if in the Department's judgement it is impractical or unreasonable to make conforming modifications.

305.3.4 Load Transfer

Truck cranes having an axle or axle group whose suspension is dependent upon pneumatic or hydraulic devices to carry any portion of its weight shall not be allowed a load transfer.

Truck cranes equipped with four-axles or more which meet the following requirements may be allowed a load transfer from one end of the carrier to the other if:

- Axle width is at least 10'0" measured from outside to outside of the widest part of the tires (not to include load-induced tire bulge).
- Equipped with four tires per axle. When equipped with flotation-type tires of a minimum size of 18 x 19.5 only two tires per axle are required.
- Equipped with tires that have a minimum cross-section of 14 inches.
- No close coupled axle groups.

305.3.5 Load Bonus

Truck cranes having an axle or axle group whose suspension is dependent upon pneumatic or hydraulic devices to carry any portion of its weight shall not be allowed a load bonus.

Truck cranes equipped with three-axles which meet the following requirements may be allowed a load bonus on axles 2 and 3.

- Axle width is at least 10'0" measured from outside to outside of the widest part of the tires (not to include load-induced tire bulge).
- Equipped with four tires per axle on axles 2 and 3. When equipped with flotation-type tires of a minimum size of 18 x 19.5 only two tires per axle are required.
- Equipped with tires that have a minimum cross-section of 14 inches.

305.3.6 Allowable axle weights

- Two axle cranes shall conform to the standard overload charts for orange, green or purple weight. Transfer or bonus weights will not be allowed. Two axle cranes with a spacing of 18'0" or less are allowed a gross weight from the standard overload charts for orange, green or purple weight for the corresponding axle spacing; however, no single axle shall exceed 20,000 pounds for orange, 24,000 pounds for green or 28,000 pounds for purple.

  Two axle cranes with a spacing greater than 18'0" are allowed up to 20,000 pounds per axle for orange weight, up to 24,000 pounds per axle for green weight and 28,000 pounds for purple weight.

- Three axle truck cranes with a 1-3 bridge dimensions of 18'0" or less are allowed a gross weight computed from the formula 1.50 X 700 (L+40) + 7000 for purple and 1.30 X 700 (L+40) + 6000 for green. The steering axle may not exceed 50 percent of that allowed for the drive axles in the standard overload charts for orange, green or purple.

  If the 1-3 bridge dimensions exceeds 18'0" the gross weight is that allowed from the standard overload charts for orange, green or purple weight on the drive axles plus up to 50 percent of that weight on the steering axle. The drive axles, if qualified, may be allowed an additional 7,000 pounds bonus load for purple weight and 6,000 pounds for green weight. However, the tandem drive axles shall not exceed 54,300 pounds for purple and 47,000 pounds for green.

- Four-axles or more cranes are allowed a maximum GVW determined from the standard overload charts for orange, green or purple. Once the maximum GVW is determined, either the front or the rear axle group may, if qualified, be allowed a load transfer. Load transfer does not increase the allowable gross vehicle weight but rather redistributes axle loading group weights. Load transfer is limited to 7,000 pounds for purple and 6,000 pounds for green with the following limitations on individual axle loading groups:

	Maximum Green Load (Pounds)	Maximum Purple Load (Pounds)
Tandem Axles	47,000	54,300
Tridem Axles	51,700	59,500

If the axle loading groups of the carrier are close coupled, the applicable load transfer is added to the allowable chart weight of the close coupled axles. In any case, the maximums shown above shall not be exceeded.

- **The gross weight imposed on the highway by the wheels of any one axle of a boom dolly or boom trailer shall not exceed 18,000 pounds and the gross weight upon any one wheel or wheels supporting one end of such axle, and resting upon the roadway, shall not exceed 9,500 pounds.**

The total gross weight with load imposed on the highway by any group of two or more consecutive axles of a boom dolly or boom trailer shall not exceed that given for the respective distance given below.

Distance in feet between First & Last Axle Group	Allowed Load in Pounds on Group of Axles
4	32,000
5	32,000
6	32,200
7	32,900
8	33,600
9	34,300
10	35,000
11	35,700
12	36,400
13	37,100
14	43,200
15	44,000
16	44,800
17	45,600
18	46,400
19	47,200
20	48,000
21	48,800
22	49,600
23	50,400
24	51,000
25	55,250
26	56,100

Boom support cables must be slack with the full weight of the boom resting on dolly or trailer. Hydraulic systems used to raise and lower hydraulic cranes shall be in a neutral or open position so that all hydraulic influence loads can be relieved.

305.3.7 Truck Crane Length

Truck cranes moved under permit shall conform to the 40 feet maximum legal vehicle length provision of 35400 V.C. except a six-axle crane carrier shall not exceed 50 feet in length. Truck cranes in combination with boom dolly or trailer

shall not exceed an overall length of 75 feet, measured from the front of the crane carrier to the end of dolly or trailer. The maximum overall length, including boom, shall not exceed 80 feet.

305.3.8 Boom Overhang, Unsupported

Maximum allowable boom overhang measured to the last hard metal shall not exceed:

- Front overhang shall not exceed 30 feet measured from the front of the front tire.
- Rear extension shall not exceed 25 feet from the centerline of the rearmost crane axle.

305.3.9 Boom Overhang, Supported

- Booms supported from a trailer shall not extend more than 35 feet measured from the center of rotation of the boom support.
- Booms supported on a dolly shall not extend more than 30 feet, measured from the centerline of the rearmost axle of the dolly.

305.3.10 Width

Extralegal width for annual permit is allowed up to 11'4" for crane carrier or crane including all projections excepts lights, mirrors and equipment defined in CVC Section 35110 and tire width, not including load induced tire bulge, up to 11 feet 4 inches.

Extralegal width for single trip permits is allowed up to 13 feet for crane carrier or crane including all projections except lights, mirrors and equipment defined in CVC 35110. Additionally, tire width, not including load induced tire bulge, is allowed up to 13 feet 4 inches.

305.3.11 Height

In the judgement of the Department, height that cannot be reduced to legal may be permitted as limited by the route clearance. Annual permit can not exceed legal height.

306 BOAT TRAILERS

Boat trailers require inspection only when they are transporting boats that generate extralegal axle weights. These trailers are often designed so the outside wheels and tires can be removed.

Extralegal trailer width is not authorized when the width exceeds the width of the boat, unless the increased trailer width is used to reduce an extralegal height dimension to a more acceptable dimension.

Outside duals that generate an extralegal width shall be removed unless the boat width exceeds that of the trailer with the duals installed.

307 EXPANDABLE AND STRETCH TRAILERS

Expandable and stretch trailers are authorized but they shall be reduced to their minimum dimensions when unladen.

308 MODULAR HAULING EQUIPMENT

All permit applications requesting the use of beam and dolly or house moving equipment shall be referred to Headquarters. Increased tire capacity at reduced vehicle speed prohibited in Section 302.7 is not applicable for this type of equipment.

309 ADD ON AXLES

Add on axles are only acceptable if the suspension system for the original axle and the add on axle are the same.

The most common application incorporates air suspension. It may be in form of a simple addition to the existing frame (chassis) or in the form of a "flip" axle.

All axles within the same suspension group shall have a common suspension system. Additionally, this suspension system shall naturally divide weight between all axles equally and equitably, both statically and dynamically under all loading conditions without any influence from an outside source.

Air bag suspension systems are required to have like mounting hardware and a common air supply to all bags without any valves or quick disconnects to alter the natural flow of air to all bags. Left to right leveling valves are allowed.

310 SCRAPER MOVES

This section covers two different subjects on the movement of heavy earth moving scrapers. While they are similar, each has different requirements.

310.1 Applications for motor driven scrapers transported as a "haul and tow" are acceptable. Axle weights up to 35,600 pounds for purple loading and 32,500 pounds for green loading on the towed scraper axle are authorized.

These weights are available only when close coupling does not exist and the move is limited to a maximum of 25-miles from origin to destination. Moves over 25-miles require the use of a "stinger" or "basket" dolly on the last scraper axle or hauled in its entirety on qualified hauling equipment.

Special attention should be given to these applications as some scraper axles, by design, exceed the maximum authorized weights. Any addition of ballast or other add-on components may cause the scraper axles of marginal units to exceed the weights authorized.

310.2 "Minimum" axle spacings are acceptable on the permit when scrapers are hauled on a jeep or semitrailer and a stinger or basket dolly. However, caution should be exercised when writing permits to move scrapers on hauling equipment that does not incorporate full bonused axles on the semitrailer or jeep when used in conjunction with a basket or stinger dolly.

A small amount of adjustment of the scraper on the semitrailer or jeep is authorized. The adjustment can be controlled by placing a limit on the overall vehicle combination length.

The overall vehicle combination length on the permit shall not be more than one foot longer than the actual overall length when all of the axle spacing are at the minimum. This will allow for adjustment of a sliding fifth wheel and placement of the scraper axle on either the jeep or semitrailer.